RAILROAD

MAGAZINE | FEBRUARY 50c

57

We'll train and establish you in

Your Own Business

. . . even if now employed!

If you have longed for the prestige and financial independence of YOUR OWN business, you can now realize this desire . . . if you can qualify for a Duraclean dealership. We are now enlarging this 27-year-old chain of independently-owned service dealerships which has rapidly grown to a world-wide service.

You must, however, be honest, diligent, and able to make a small investment in a business which we will locally assist you in establishing . . . a profession for which we will personally and quickly train you. If needed, we will help finance you.

We want to assure your success. A Duraclean dealer will train and assist you. He'll reveal the **Duraclean System** with his successful plan of building customers. He will **work with you.** This business is **easy to learn** . . . quickly established.

This is a sound, lifetime business that grows from REPEAT ORDERS and customer RECOMMENDATIONS. Alert dealers can gross an hourly profit of $5.00 on own service plus **$3.00 on EACH serviceman** at National Price Guide charges.

Plan NOW for Future Years!

You Become an Expert in Cleaning and Protecting Rugs, Carpets and Upholstery!

Over a quarter century of proven success

DURACLEAN® (left) cleans by **absorption.** It eliminates scrubbing . . . soaking . . . shrinkage. Aerated foam, created by electric Foamovator, restores the natural lubrication of wool and other animal fibers in rugs and upholstery. Dirts, grease and many unsightly spots vanish. Fabrics and floor coverings are cleaned with a **new consideration for their life and beauty.**

This modern process avoids strong soaps and machine scrubbing! This eliminates unnecessary wear and the breaking of fibers. Fabric life is increased.

DURACLEANING is done **in the home.** Customers like this convenience. Fabrics dry in a few hours. Rug pile again stands erect and even. Brilliant colors revive. Furnishings become clean, fresh and enlivened.

DURAPROOF® is another year 'round service rendered in the home, office or institution—**without removing furnishings.** It protects upholstery, rugs, furs, clothing and auto interiors against damage by moths and carpet beetles. U. S. Government says, "Moths are present in practically every household . . . No section of country seems free from such infestations." **DURAPROOF** kills moths and carpet beetles . . . it makes materials non-eatable to both. **DURAPROOF** is the ONLY mothproof service backed by an International Money Back, 6-Year Warranty.

Easy To Learn • No Overhead Expense

Start Full or Part Time

No experience necessary! Some dealers establish shops or an office . . . others operate from their own homes. Service may be rendered in homes, offices, hotels, theaters or institutions. Auto dealers buy their **DURACLEAN** Service to revive upholstery in used cars. Almost every building in your territory houses a potential customer needing one or both services. **You enjoy big profits** on both materials and labor — after paying service men.

FIRST PROCESS IN THE FIELD TO WIN THIS IMPORTANT HONOR!

As a Duraclean dealer, your services are backed by this famous seal of quality . . . proof that Duraclean has passed the most rigorous tests. No competitor in your town can boast this seal. Customers will also see that your service has been tested and certified by the American Research & Testing Laboratories. No wonder it's so easy to get business!

Repeat and Voluntary Orders

Demonstrations win new customers. Men with **DURACLEAN** Dealerships find REPEAT and VOLUNTARY orders become a major source of income. Customers are not merely satisfied—many are enthused with results and tell their friends and neighbors. Furniture and department stores and interior decorators turn over cleaning and moth-proofing to **DURACLEAN** Dealers. We show you **27 ways** to get **new** customers.

Easy Terms!

A moderate payment establishes **your own** business—pay balance from sales. We furnish electric machines, folders, store cards, introduction slips, sales book, demonstrators and **enough material to return your TOTAL investment.** You can have your business operating in a very few days. **Mail coupon today! No obligation.**

We Help You Grow

Our **MUTUAL COOPERATION DURACLEAN SYSTEM** gives you many unique continuous advantages: **National Advertising** in Life, McCall's, House & Garden, and a dozen others. **Copyright** and **trademark** protection. **Certificate** approves equipment and materials. **Products Insurance, Six-year Warranty, Pocket Demonstrators, Sales Book, Advertising Folders & Cards, Tested Ads, Ad Cuts & Mats, Store Display Cards, Radio & TV Musical Commercials.** Home Show **Booth Display. Publicity Program** gets FREE local newspaper stories. **Prizes. Laboratory** research and development. **Monthly Magazine. "Sale-of-Dealership" Service. Annual Conventions.** Behind all this is a headquarters interested in YOUR personal success. You will be amazed at the assistance you will receive as your business grows. **Just ask an established dealer.**

World-Wide

Duraclean dealers' businesses have developed into a world wide organization with dealerships throughout North America, Central America and South America, as well as in Alaska, Africa, China, Israel, Bermuda, Hawaii, Switzerland, Japan, Norway, etc.

FREE

Booklet Tells How!

Our first letter and 16 page illustrated booklet will explain everything these modern urgently needed services, waiting market, how business grows, your large profits, easy terms and PROTECTED territory. Send Coupon TODAY while territory is open.

What Dealers Say

W. Abbott: In the past seven months I have taken in over $12,000 cleaning auto interiors.

R. N. Ritter: I seldom go under $200.00 per week by myself.

W. A. Lookiebill: We've had 20 years of pleasant dealings. I'm 65 but am setting my sights for 20 more years.

P. Friedinger: 70% of our business is repeat . . . also get business from reference of satisfied customers.

Earl Davis: Our sales increased $17,660 this year over last.

Leroy Ellsworth: Your advertising program certainly paid dividends for me.

M. Lassanske: My original investment was returned in about two months.

C. L. Smith: Again 1 day's work, 8 hrs. totaling over $100.00 for my helper and I isn't bad for a country boy like me. I do not have any unusual abilities: only this, I'm equipped with the best cleaning service in the field and get well paid for my work.

R. E. Schenck: The customers I had on House & Garden **ads were very pleased. Their furnishings came out beautiful.**

R. Kimbrough: Finished First White House of Confederacy and am to Duraclean the Governor's Mansion.

L. B. Hayes: During my first month I grossed $770.17.

T. Komori (Japan): We have 1,000,000 yen contract Duracleaning for U. S. Army.

More dealer comments given in our literature

"OWN a Business" Coupon

DURACLEAN CO., 7-702 Duraclean Bldg., Deefield, Illinois

Without obligation, tell me how I may enoy a steady increasing life income in my **OWN** business. Enclose **FREE** booklet and full details.

Name _____

Address _____

City _____ State _____

Duraclean® Co., 7-702 Duraclean Bldg. - - Deerfield, Illinois

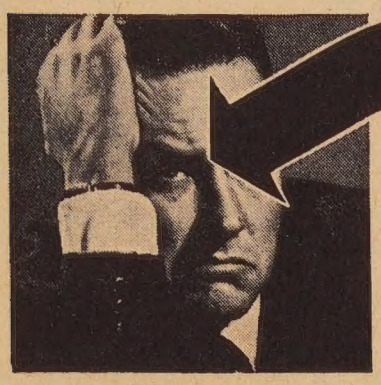
Can you profit by their mistakes?

"Not getting enough education"

You needn't make that mistake. You can get that better job, those big promotions, the regular raises that so many I. C. S. students report. And you can do it without "going to school," without interfering with your present job or your social life.

YOU can study with I. C. S. at home, in your spare time!

"Wrong choice of career"



When you study with I. C. S. you have 256 courses to choose from. And part of our job here at I. C. S. is not only giving you instruction but making sure you pick the course that's right for you!

YOU get expert guidance FREE from I. C. S.!

"Failed to seize opportunities"

Your opportunity is right here on this page. Don't pass it by. Don't put it off. Mail the coupon now and let us send you our 3-book career kit.

YOU get 3 FREE books if you mail the coupon today!

1. **36-page gold mine of information, "How to Succeed."**
2. **Career Catalog outlining opportunities in your field.**
3. **Sample I. C. S. lesson (Math.).**

For Real Job Security—Get an I. C. S. Diploma! **I. C. S., Scranton 9, Penna.** Member, National Home Study Council

INTERNATIONAL CORRESPONDENCE SCHOOLS — 65TH YEAR

BOX 70425 M, SCRANTON 9, PENNA. (Partial list of 256 courses)

Without cost or obligation, send me "HOW to SUCCEED" and the opportunity booklet about the field BEFORE which I have marked X (plus sample lesson):

ARCHITECTURE and BUILDING CONSTRUCTION
- ☐ Air Conditioning—Refrig.
- ☐ Architecture
- ☐ Architectural Interiors
- ☐ Building Contractor
- ☐ Building Estimator
- ☐ Building Maintenance
- ☐ Carpentry and Mill Work
- ☐ Heating
- ☐ Painting Contractor
- ☐ Plumbing
- ☐ Reading Arch. Blueprints

ART
- ☐ Cartooning
- ☐ Commercial Art
- ☐ Fashion Illustrating
- ☐ Magazine Illustrating
- ☐ Show Card and Sign Lettering
- ☐ Sketching and Painting

AUTOMOTIVE
- ☐ Auto Body Rebuilding
- ☐ Auto Elec. Technician
- ☐ Auto-Engine Tune Up
- ☐ Automobile Mechanic

AVIATION
- ☐ Aeronautical Engineering Jr.
- ☐ Aircraft & Engine Mechanic

BUSINESS
- ☐ Advertising
- ☐ Bookkeeping and Accounting
- ☐ Business Administration
- ☐ Business Correspondence
- ☐ Public Accounting
- ☐ Creative Salesmanship
- ☐ Federal Tax
- ☐ Letter-writing Improvement
- ☐ Office Management
- ☐ Professional Secretary
- ☐ Retail Business Management
- ☐ Sales Management
- ☐ Stenographic-Secretarial
- ☐ Traffic Management

CHEMISTRY
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- ☐ Chemical Engineering
- ☐ Chem. Lab. Technician
- ☐ General Chemistry
- ☐ Natural Gas Prod. & Trans.
- ☐ Petroleum Engineering
- ☐ Plastics
- ☐ Pulp and Paper Making

CIVIL, STRUCTURAL ENGINEERING
- ☐ Civil Engineering
- ☐ Construction Engineering
- ☐ Highway Engineering
- ☐ Reading Struct. Blueprints
- ☐ Sanitary Engineering
- ☐ Structural Engineering
- ☐ Surveying and Mapping

DRAFTING
- ☐ Aircraft Drafting
- ☐ Architectural Drafting
- ☐ Electrical Drafting
- ☐ Mechanical Drafting
- ☐ Mine Surveying and Mapping
- ☐ Plumbing Drawing and Estimating
- ☐ Structural Drafting

ELECTRICAL
- ☐ Electrical Engineering
- ☐ Electrical Maintenance
- ☐ Electrician ☐ Contracting
- ☐ Lineman

HIGH SCHOOL
- ☐ Commercial ☐ Good English
- ☐ High School Subjects
- ☐ Mathematics

LEADERSHIP
- ☐ Foremanship
- ☐ Industrial Supervision
- ☐ Leadership and Organization
- ☐ Personnel-Labor Relations

MECHANICAL AND SHOP
- ☐ Gas—Electric Welding
- ☐ Heat Treatment ☐ Metallurgy
- ☐ Industrial Engineering
- ☐ Industrial Instrumentation
- ☐ Industrial Supervision
- ☐ Internal Combustion Engines
- ☐ Machine Design-Drafting
- ☐ Machine Shop Inspection
- ☐ Machine Shop Practice
- ☐ Mechanical Engineering
- ☐ Quality Control
- ☐ Reading Shop Blueprints
- ☐ Refrigeration
- ☐ Sheet Metal Worker
- ☐ Tool Design ☐ Toolmaking

RADIO, TELEVISION
- ☐ Industrial Electronics
- ☐ Practical Radio TV Eng'r'ng
- ☐ Radio and TV Servicing
- ☐ Radio Operating
- ☐ Television Technician

RAILROAD
- ☐ Air Brake Equipment
- ☐ Car Inspector
- ☐ Diesel Engineer & Fireman
- ☐ Section Foreman

STEAM AND DIESEL POWER
- ☐ Combustion Engineering
- ☐ Diesel—Elec. ☐ Diesel Eng's
- ☐ Electric Light and Power
- ☐ Stationary Fireman
- ☐ Stationary Steam Engineering

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- ☐ Cotton, Rayon, Woolen Mfg.
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- ☐ Loom Fixi'g ☐ Textile Des'ing
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MISCELLANEOUS
- ☐ Domestic Refrigeration
- ☐ Marine Engineering
- ☐ Ocean Navigation
- ☐ Professional Engineering
- ☐ Short Story Writing
- ☐ Telephony

Name_____ Age_____ Home Address_____

City_____ Zone_____ State_____ Working Hours_____ A.M. to P.M._____

Occupation_____

Canadian residents send coupon to International Correspondence Schools, Canadian, Ltd., Montreal, Canada. . . . Special tuition rates to members of the U. S. Armed Forces.

MEN PAST 40

Afflicted With Getting Up Nights, Pains in Back, Hips, Legs, Nervousness, Tiredness.

If you are a victim of the above symptoms, the trouble may be due to Glandular Dysfunction. A constitutional Disease for which it is futile for sufferers to try to treat themselves at home. Medicines that give temporary relief will not remove the cause of your trouble.

To men of middle age or past this type of dysfunction occurs frequently. It is accompanied by loss of physical vigor, graying of hair, forgetfulness and often increase in weight. Neglect of such dysfunction causes men to grow old before their time—premature senility and possibly incurable conditions.

Most men, if treatment is taken before malignancy has developed, can be successfully NON-SURGICALLY treated for Glandular Dysfunction. If the condition is aggravated by lack of treatment, surgery may be the only chance.

NON-SURGICAL TREATMENTS

The NON-SURGICAL treatments afforded at the Excelsior Institute are the result of 20 years research by scientific Technologists and Competent Doctors.

The War brought many new techniques and drugs. These added to the research already accomplished has produced a new type of treatment that is proving of great benefit to man as he advances in years.

The Excelsior Institute is devoted particularly to the treatment of diseases of men of advancing years. Men from all walks of life and from over 3,000 cities and towns have been successfully treated. They found soothing and comforting relief and new health in life.

EXAMINATION AT LOW COST

On your arrival here, Our Doctors who are experienced specialists, make a complete examination. Your condition is frankly explained to you with the cost of treatment you need. You then decide if you will take the treatments needed. Treatments are so mild that hospitalization is not necessary—a considerable saving in expense.

RECTAL COLON
Are often associated with Glandular Dysfunction. We can treat these for you at the same time.

Write Today for Our FREE ILLUSTRATED BOOK

The Excelsior Institute has published a New FREE Book that deals with diseases peculiar to men. It could prove of utmost importance to your future life. Write today. No obligation.

EXCELSIOR INSTITUTE
Dept. 4075
Excelsior Springs, Mo.
Gentlemen. Kindly send at once your New FREE BOOK. I am_____years old

NAME_____

ADDRESS_____

TOWN_____

STATE_____

RAILROAD

MAGAZINE

The Magazine of Adventurous Railroading—Founded 1906

VOL. 68, NO. 2 FEBRUARY 1957 50 CENTS

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Front cover: Chicago & North Western caboose (see page 6)

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I WILL TRAIN YOU AT HOME FOR GOOD PAY JOBS IN RADIO-TELEVISION

J. E. SMITH has trained more men for Radio-Television than any other man. OUR 40th YEAR.

America's Fast Growing Industry Offers You Good Pay—Bright Future—Security

I TRAINED THESE MEN

"Started to repair sets six months after enrolling. Earned $12 to $15 a week in spare time."—Adam Kramlik, Jr., Sunneytown, Pennsylvania.

"Up to our necks in Radio-Television work. Four other NRI men work here. Am happy with my work."—Glen Peterson, Bradford, Ont., Canada.

"Am doing Radio and Television Servicing full time. Now have my own shop. I owe my success to N.R.I."—Curtis Stath, Ft. Madison, Iowa.

"Am with WCOC. NRI course can't be beat. No trouble passing 1st class Radio-phone license exam."—Jesse W. Parker, Meridian, Mississippi.

"By the time I graduated I had paid for my course, a car and testing equipment. Can service toughest jobs."—E. J. Streitenberger, New Boston, Ohio.

AVAILABLE TO VETERANS UNDER G.I. BILLS

Training plus opportunity is the PERFECT COMBINATION for job security, good pay, advancement. In good times, the trained man makes the BETTER PAY, GETS PROMOTED. When jobs are scarce, the trained man enjoys GREATER SECURITY. NRI training can help assure you more of the better things of life.

Start Soon to Make $10, $15 a Week Extra Fixing Sets

Keep your job while training. I start sending you special booklets the day you enroll, that show you how to fix sets. Multitester built with parts I send helps you make $10, $15 a week extra fixing sets while training. Many start their own Radio-Television business with spare time earnings.

My Training Is Up-To-Date

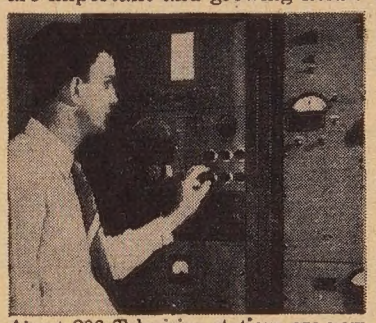
You benefit by my 40 years' experience training men at home. Well illustrated lessons give you basic principles you need. Skillfully developed kits of parts I send (see below) "bring to life" things you learn from lessons.

You Learn by Practicing with Parts I Send

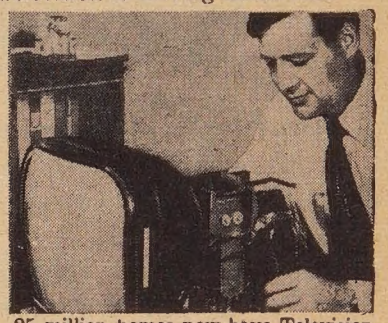
Nothing takes the place of PRACTICAL EXPERIENCE. That's why NRI training is based on LEARNING BY DOING. You use parts I furnish to build many circuits common to Radio and Television. As part of my Communications Course, you build many things, including low power transmitter shown at left. You put it "on the air," perform procedures required of broadcasting operators. With my Servicing Course you build modern Radio, etc. Use Multitester you build to make money fixing sets. Many students make $10, $15 week extra fixing neighbors' sets in spare time while training. Coupon below will bring book showing other equipment you build. It's all yours to keep.

The Tested Way To Better Pay!

Television Making Good Jobs, Prosperity—Even without Television, Radio is bigger than ever. 115 million home and auto Radios to be serviced. Over 3000 Radio broadcasting stations use operators, technicians, engineers. Government, Aviation, Police, Ship, Micro-wave Relay, Two-Way Radio Communications for buses, taxis, trucks, etc., are important and growing fields. Television is moving ahead fast.



About 200 Television stations are now on the air. Hundreds of others being built. Good TV jobs opening up for Technicians, Operators, etc.



25 million homes now have Television sets. Thousands more are being sold every week. Get a job or have your own business selling, installing, servicing.

Radio-TV Needs Men of Action—Mail Coupon

Act now to get more of the good things of life. Actual lesson proves my training is practical, thorough. 64-page book shows good job opportunities for you in many fields. Take NRI training for as little as $5 a month. Many graduates make more than total cost of training in two weeks. Mail coupon now. J. E. SMITH, President, National Radio Institute, Dept.7-AR4Washington 9, D. C. OUR 40TH YEAR.

Good for Both—FREE

The ABC's of SERVICING

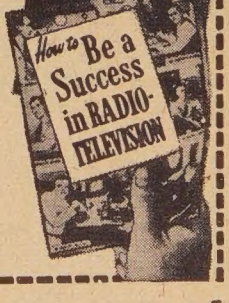
MR. J. E. SMITH, President, Dept. 7-AR4
National Radio Institute, Washington 9, D.C.
Mail me Sample Lesson and 64-page Book, FREE.
(No salesman will call. Please write plainly.)

Name.....Age.....

Address.....

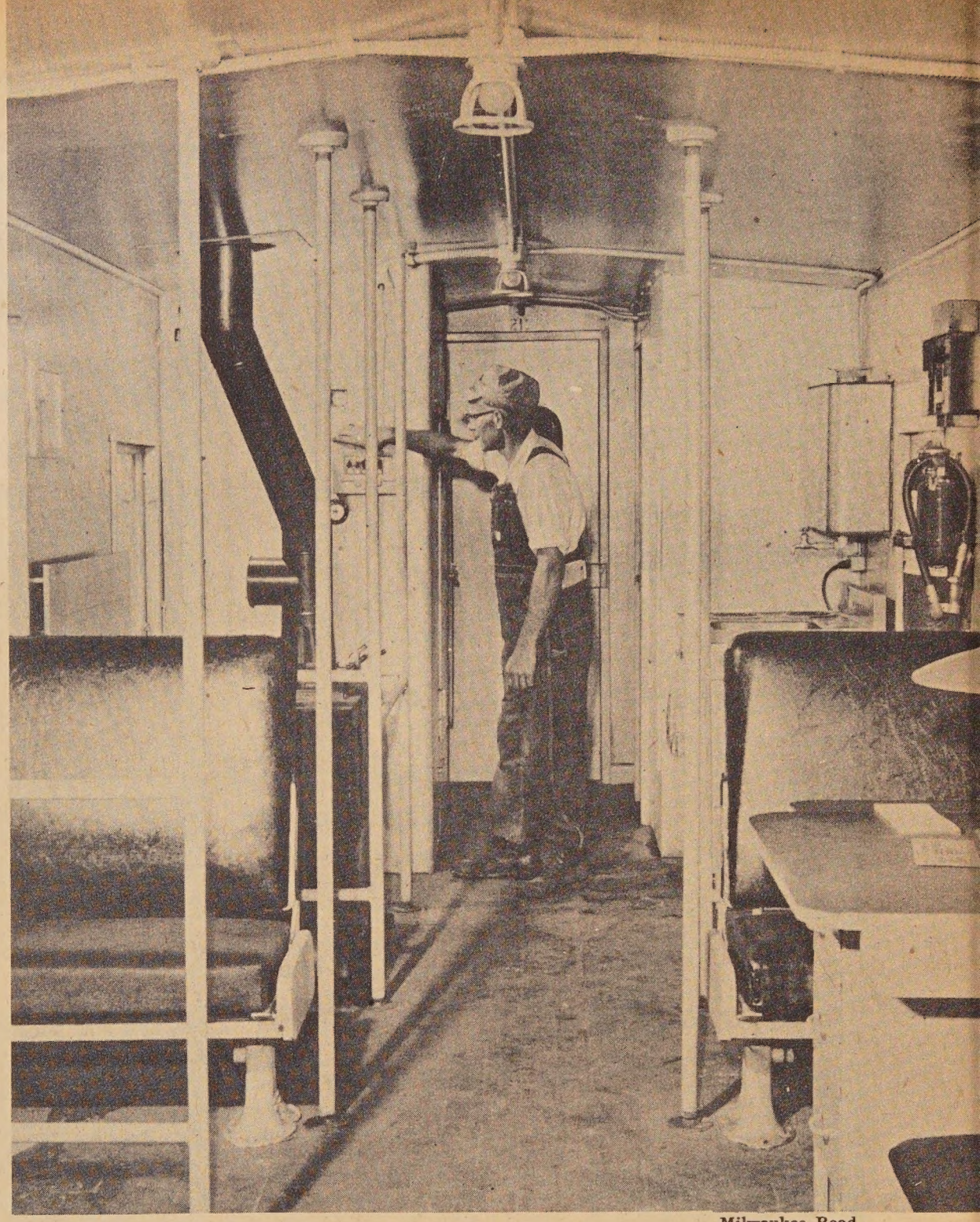
City.....Zone....State.....

VETS write in date of discharge .....



MAIL CAR

Running Orders, Waybills, and Sandhouse Gossip—from Railroaders, Fans, and the Editorial Crew



Milwaukee Road

The modern, all-steel, bay-window-type caboose, such as the Milwaukee Road's latest crop of 100, is as spic and span as a metropolitan hospital reception room.

FRESHLY PAINTED, caboose No. 11780 was an irresistably bright target for Fred L. Tonne's camera one sunny day at Platteville, Wis., on the Chicago & North Western's West End freight branch, and he shot it with daylight Ektachrome, about one-fiftieth at F/8 to F/11. It makes an eye-catching *Railroad* cover.

The conductor shown on the rear platform, Charles W. ("Buster") Whitman of Lancaster, is blowing the tail hose whistle, a back-up signal, while the brakeman giving a highball is Russell Marx of Black Earth, also Wisconsin. The train is backing into the depot and end of track (and junction with the Omaha Road).

Fred Tonne lives in Milwaukee at 4465 N. 149th Street. For nearly eight years he has been with *The Milwaukee Journal's* photo department. In fact, his caboose color-shot was used first on *The Journal's* Sunday rotogravure cover. Inside, the section carried an 80-column-inch picture-story of his on the branch line.

Fred covers just about everything in the news-photo field, but especially railroads. During World War II he shot many pictures for the U.S. Army Signal Corps in England and continental Europe, including the Nuremberg trials of Nazi war criminals.

"As a boy in northern Wisconsin," he recalls, "I often helped to service Soo Line 2-80's at the Shawano roundhouse—greasing and watering them, banking fires, and probably being a general nuisance."

Among the railroadiana in his home are a steam locomotive bell and whistle in the basement, a steam locomotive headlight for a driveway and yard light, and a fairly large stable of HO gage equipment. ●

ONE HUNDRED new cabooses of the most up-to-date design are being put in service on the Milwaukee Road—all steel, electrically equipped, and with bay windows instead of cupolas. They're smart-looking, inside and out, and very efficient. Freight crews are delighted.

This type completes the cycle. The earliest cabooses had no cupolas. Then, during the Golden Age of Steam and Morse, every little wooden crummy boasted a doghouse. But even before the Atomic Age set in, the time-honored sky parlor started to pass out.

Let's see why. The cupola was devised to give trainmen a better view of the long string of swaying freight cars of various sizes and shapes that rolled ahead. You should know whether or not your cars are riding properly. But in time the increasing height of boxcars impaired your view and outmoded the doghouse. One by one the big roads began ordering new steel cabooses with protruding bays but no cupolas.

Trainmen can inspect modern cars better from side bay windows than from aloft. Also, they can detect hotboxes more readily, since odors cling to the ground, and you don't have to climb a ladder to your observation post.

Electrical power in the modern caboose is provided by either a diesel plant or axle-driven generating equipment. The current operates two-way radios, a refrigerator, a two-burner cook stove, and interior lighting as well as

NATIONAL SCHOOLS

proudly presents

FOR MEN WHO WANT TO EARN MORE MONEY

TELERAMA • ALL BRANCHES OF TELEVISION ELECTRONICS • RADIO IN ONE DYNAMIC, MODERN SHOP METHOD, HOME TRAINING COURSE

* Registration applied for

Another great advance in **HOME STUDY TRAINING.** Let National Schools, of Los Angeles, a practical Technical Resident Trade School for over 50 years, train you at home by Shop-Method, for today's unlimited opportunities in **ALL 8 BRANCHES** of the Television, Electronics, Radio Industry.

Check all you receive in *One Master Course* at One Low Tuition

1. **Television — Including Color TV**
2. **Radio — FM and AM**
3. **Industrial Electronics**
4. **Sound Recording and Hi-Fidelity**
5. **Preparation for FCC License**
6. **Automation**
7. **Radar and Sonar**
8. **Communications**

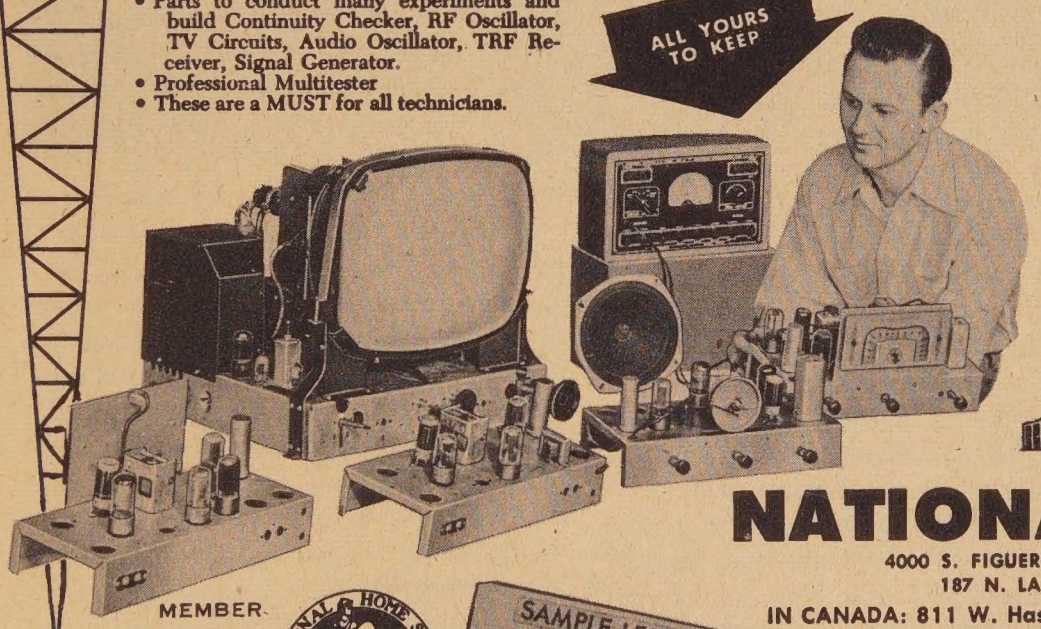
ALL OF THIS MODERN, NEWEST, PRACTICAL EQUIPMENT IS YOURS TO KEEP!

- Parts to Build a modern TV set, including large screen Picture Tube.
- Parts to build a powerful Superhet Receiver, standard broadcast and short wave.
- Parts to conduct many experiments and build Continuity Checker, RF Oscillator, TV Circuits, Audio Oscillator, TRF Receiver, Signal Generator.
- Professional Multitester
- These are a MUST for all technicians.

YOU DO MANY PRACTICAL JOBS. You do servicing, circuit analysis and many other down-to-earth experiments. You build a modern TV set from the ground up . . . with equipment kits we give you, including a new large screen picture tube and professional Multitester, at no additional charge.

EARN AS YOU LEARN! Many of our students earn their entire tuition and more in Spare Time jobs we show them how to do while learning. YOU GET GRADUATE ADVISORY SERVICE, TOO.

ALL YOURS TO KEEP



L. J. ROSENKRANZ
President of NATIONAL SCHOOLS

This Master-Shop-Method course is completely up-to-date. Here in Los Angeles, the TV and Electronics center of the world, we are able to keep in constant touch with the industries' latest developments. As a student, you will quickly master all phases at home . . . in your spare time. Your earning power will grow with every lesson. Just as thousands of National Schools graduates do every day, you can handle servicing, manufacturing, repairing, hundreds of other jobs, or make good money in your own business. SECURE YOUR FUTURE—NOW. SEND COUPON BELOW.

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marker lamps. An oil-fired heater replaces the pot-bellied coal stove.

Trainmen are proud of these Atomic Age cabooses. Some time in the future, lore and affectionate memories will begin to cluster around them; but right now, in the transition stage, the old-fashioned type shown on our front cover still has more story-value. ●

NOT MANY GIRLS can say, like Esther Jane Wood, "I have ridden in a caboose all over the Santa Fe yards at Needles, Calif., and have traveled in a steam locomotive cab."

Esther J. Wood

Esther's interest in railroading may be traced to the fact that her father, T. C. Wood, is a Santa Fe conductor, not to mention a railroading uncle and two railroading great-uncles. The girl is studying at Mary Hardin-Baylor College, Box 116, Bolton, Texas.

"My ambition," she confides, "is to become the finest doctor I can be and the finest Christian I can be. Daddy wants me to go railroading. All my life he has talked railroading to me. He would take me, as a child, to the crew dispatcher's office to check the board for assignments and times of departure. Maybe after I have completed medical school I will work in a Santa Fe Railway hospital."

Mr. Wood hired out to the Santa Fe in 1918, while working his way through school, was often cut off the board, and finally became a conductor in 1943. One cold January night he was braking for a fussy conductor who went out of his way to impress a certain brass collar who happened to be riding their train. The conductor grabbed an old oil-burning lantern and some flagging equipment he didn't need, and made a pompous exit from the train. But after a few steps he tripped and fell head-first into the deep snow. Esther's father, looking down from a car vestibule, shook with laughter. Some funny things happen on the rails. ●

HAYWIRE MAC'S "Caboose Hustler" in a recent issue evoked refreshing memories for Albert Mansfield, 1157 Martin St., White Rock, B. C., Canada—"memories of riding an Alberta Northern caboose north of Edmonton, past grass-sheltered, crystal-clear streams, beaver dams, and miles of silver birches. There, where settlements are few and far between, you'll find brakemen who still practice food hustling and caboose cookery.

"I spent four happy years on a weed-spraying train which took us over nearly every inch of track in western Canada. One rainy night, while our caboose was being transported by barge up Slocan Lake, deep in the mountains of British Columbia, to an isolated Canadian Pacific branch line, we had an unforgettable steak dinner with all the trimmings. Outside, a wild storm lashed the lake, but in the crummy we were snug and warm, with a sense of camaraderie I had not known since army days. I wonder if our roadmaster, Hooper, or Matthew or Barnet will read this and remember?" ●

AUTHENTIC is the word for our lead feature article this month. You can guess from reading it that Harley L. Kelso is, or was, a locomotive fireman who got many a blister from bailing black diamonds into the white-hot maws of Eight-wheelers, as well as other-type steamers.

H. L. Kelso

And you'd guess right. Kelso was born in Illinois around the turn of the century. He took to railroading mainly because his father was a boomer trainman. "Not only that," he says, "but several uncles and cousins on my mother's side worked for the Illinois Central. One of them, Charlie Stoker, was about the youngest brass pounder ever to sign a railroad payroll. Cousin Charlie began OS'ing trains at age 12. They started young in those days.

"I waited till I was 17. By that time the lure of steam and steel had become so strong that I quit high school, despite parental objections, and hired out to Wells Fargo at the St. Louis Union Station. Six months later I was a train messenger.

"But that job didn't last long, either. I boarded a Missouri Pacific freight train and headed west. Probably the most brilliant piece of writing I ever did was to pen a letter addressed to 'All Railroad Men' and introducing me as a trainman's son. Naturally, I forged Dad's signature to it. Armed with this document and one of my father's Brotherhood receipts, I had a "ticket' that was good on almost any freight train in the land, and it worked fine.

"In due time I hired out to the Omaha Road as a roundhouse helper at Sioux City and a few months later I went firing. That first trip with a scoop was a thrill I'll never forget. After a while, restless like my Dad, I shifted to the Chicago & North Western. Some days the Great Northern borrowed me, along with other ashcats, for freight runs between Sioux City and Wilmar, Minn. The mills I worked on were all hand-fired coal-burners ranging in size from Eight-wheelers to heavy Pacifics.

"Incidentally, the Omaha Road's small Eight-wheelers were built by Schenectady in 1888; we called 'em 'little standards' and 'chippies.' The larger 4-4-0's, resembling the New York Central's famous 999 and built by Schenectady in 1895, were known as 'Shanghais.' Both types were good steamers and, as a rule, easy to fire.

"But railroading wasn't all romance. At times we'd slave 15 hours and 59 minutes at a stretch, day after day, barely keeping inside the 16-hour limit set by the hog law. Then business would fall off and we'd nearly starve to death on the slow board (extra board).

"At length, in 1928, this uncertainty caused me to kick the coal dust off my shoes and settle down in Los Angeles, where I've lived ever since, currently at 6602 Sixth Avenue. My present job is with a big manufacturing concern, for which I take business trips now and then to the East, always by train."

Kelso has been a railroad shutterbug since 1941, the day before the Japanese attacked Pearl Harbor, when he chanced upon a Santa Fe train wreck near L.A. and shot it with a folding Kodak. From then on, he wrote articles and took pix for various magazines, including *Railroad,* had some cover shots published, and handled assignments for the Espee and the old Lima Locomotive Works.

If enough readers say the word, we'll ask him to do a piece for us on the Ten-wheeler, comparable to his 4-4-0 feature. ●

CHRISTMAS EVE found the crew of a rattler heading for home, records Peter Josserand, Western Pacific train dispatcher, 233 41st St., Sacramento, Calif. After making a setout, the hogger yanked a drawbar in the

(Continued on page 50)

If it weren't for brand names

You'd have to be a petroleum engineer to buy the best oil for your car

Your car is one of the most expensive things you own. Bad motor oil could ruin it.

Yet you don't worry a bit about asking a filling station man you may never have even seen before to "add a quart of oil" to the motor.

How do you dare trust a stranger like that? How can you be so sure the oil he carries is good for your car? In fact, how can you ever feel sure about anything you buy?

Isn't it because you've learned the first rule of safe and sound buying:

A good brand
is your best guarantee.

No matter what kind of product you're buying, you know you can always trust a good brand. You know the company stands behind it, ready to make good if you're not satisfied. And so, you know you are *right*.

The more good brands you know, the surer you are. Get acquainted with the brands in this magazine. They'll help you cut down on buying mistakes, get more for your money.

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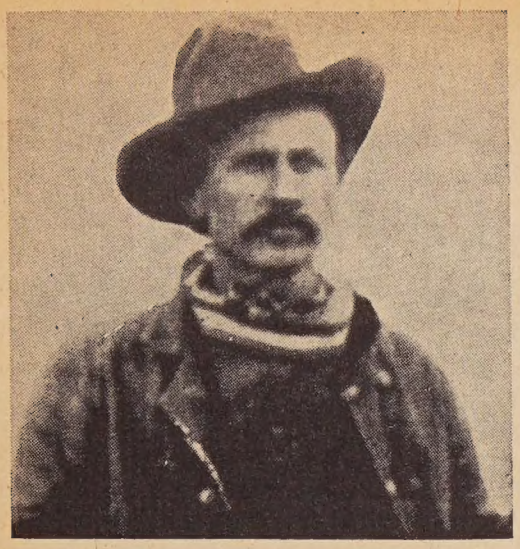

Why the killer came to Powder Springs

THE SKINNY little Texan who drifted into Butch Cassidy's layout at Powder Springs one day in '97 had dead-level eyes, a droopy mustache, and two six-guns tied down for the fast draw. Called himself Carter. Said he was a killer on the run.

That's why Cassidy and the outlaws in his notorious Wild Bunch told him all about the big future plans for their train robbers' syndicate. They took him in.

And he took them in. He was a range detective whose real name was a legend in the West—Charlie Siringo. And the information he got before he slipped away stopped the Wild Bunch for a long time.

Of course, Siringo knew all along that if Cassidy or the others had discovered the truth, they'd have killed him sure. But it just never worried him any.

You couldn't scare Charlie Siringo. Coolest of cool customers and rawhide tough, he had the go-it-alone courage it takes to build a peaceable nation out of wild frontier. That brand of courage is part of America and her people—part of the country's strength. And it's a big reason why one of the finest investments you can lay hands on is America's Savings Bonds. Because those Bonds are backed by the independence and courage of 165 million Americans. So buy U.S. Savings Bonds. Buy them confidently—regularly—and hold on to them!

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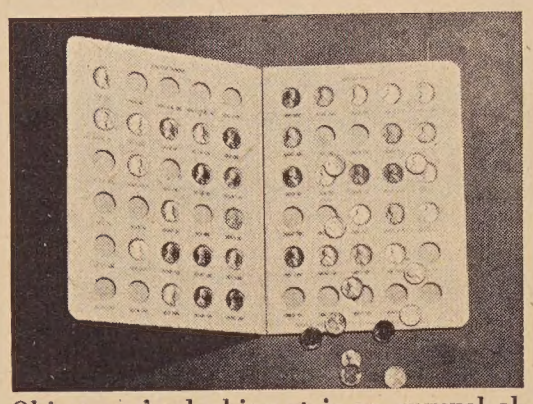
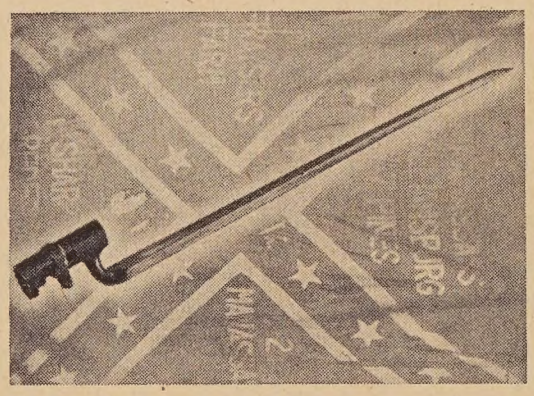
Men's Mart

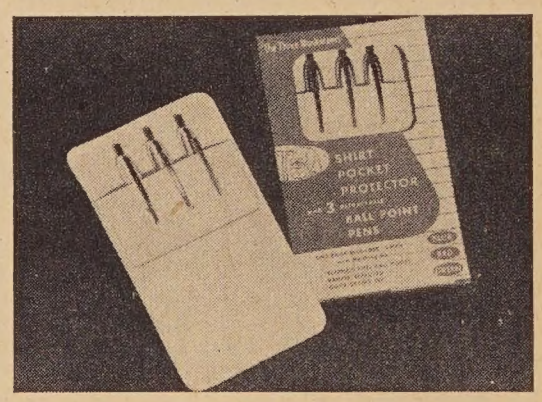


Object you're looking at is an unusual album for Lincoln head pennies—there's a place for 59 pennies, some easy to come by, others hard to find. Idea is to fill the album, naturally, but when full it'll be worth $16. Album's $1 ppd. from BYBY-MAIL, Box 488, Dept. 15, Hempstead, N.Y. If you fill the album and return it to them, they give you $16 and $1 purchase refund.

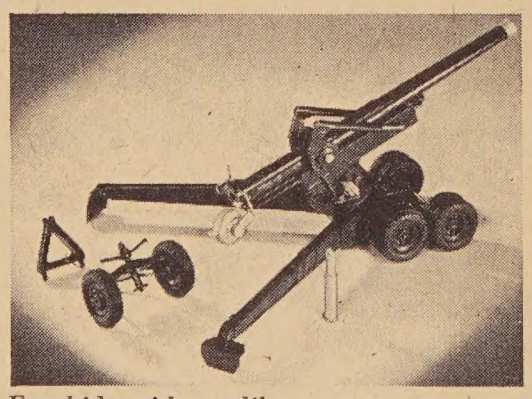
It's getting so these days, that if you want a good cup of coffee when you're on a trip, you have to brew up a pot yourself. For the good people who can't get along without their daily ration, this 2-cup aluminum pot (AC-DC) will make it easy for 'em no matter where they are. Leatherette case, cups etc. A good gift for $9.95 ppd. Gerard, 329M East 65th, N. Y.



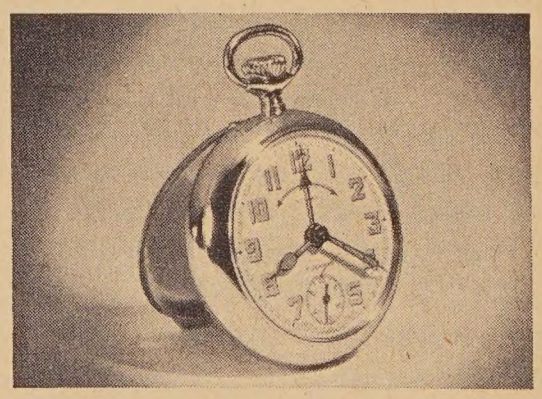
If there's a spark of chivalry in your bones, suh, you'll be moved by the fact that this is one of a dwindling supply of authentic Confederate bayonets. In remarkably fine condition (some are still even in their original grease), bayonets are triangular, measure about 21". An unusual chance to buy a bit of American history. $3.95 ppd. Lincoln Products, 411 Lincoln Bldg., N.Y. 17.



No need for your pen to stain your pockets any more if you have one of these white vinyl plastic cases. It slips neatly into shirt or jacket pocket, and comes with a set of three ball-point pens. Colors are red, blue and green. Case is soft and durable; retractable pens have long-lasting cartridges. Three pens and case, $1 ppd. Lord George, 1270 Broadway, New York 1, N. Y.



For kids with warlike natures—an exact, fully-working scale model of Britain's famous 155mm. cannon. Complete in every detail, gun elevates, revolves, rolls and fires just like original. Has barrel slides and lock, elevating wheel, detachable trail wheels, trail spades, firing mechanism. With shell case, loader, six shells. $12.95 ppd. Arms & Weapons, 40 East 40th, N.Y. 16.



A pocket alarm watch makes a useful gift for any man. This fine 7-jewel Swiss-made one can be set on the quarter hour, rings with a sharp, clear tone. Back opens to form a stand, makes watch double as a desk or night-table clock. Second sweep, luminous dial, hands. Excellent buy for $13.95 ppd., size makes it handy for business or sportsmen. Prince Enterprises, 103-Y Park Ave., N.Y.

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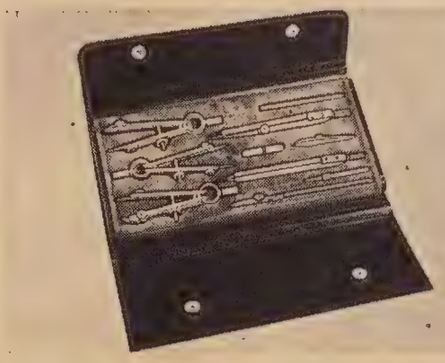
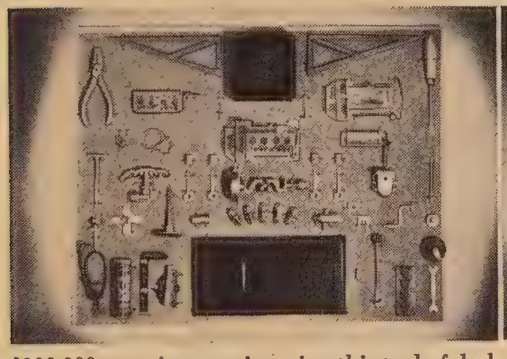
One way to start off amassing a good collection of stamps is with this big pack of 314 of various kinds. All are foreign stamps; included is a Jules Verne science-fiction set. Packet of stamps comes with a 48-page stamp dictionary. The whole thing is 25¢ ppd. as an introduction to approval applicants. Send your order in to the Stampex Co., Box 47, Dept. AG, White Plains, N.Y.

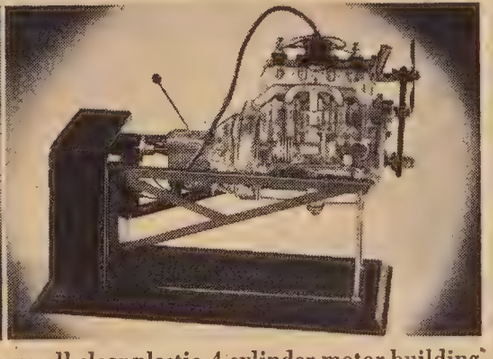


If you're looking for a drafting set, this one will probably fill the bill. It contains eleven pieces and includes plain and ring-head bow dividers, compasses for use with ink or pencil, and ruling pens and parts. All dividers and compasses are highly chrome-plated. Complete set comes in a velvet-lined case for $3 ppd. Order from Scott Mitchell House, Dept. AM, 611 Broadway, New York.

The fine jewelry craftsmen of Venice, Italy, made this unique set. Hand-fashioned butterflies are spun from sterling silver, delicately tinted with silvery blue and gold. The artistry of centuries went into their molding and finishing. Pin (1⅞" wide), $5.50; earrings, $3.85; 7½" bracelet (10 butterflies), $16.50; the set, $24 ppd. Alpine Imports, 505A Fifth Ave., N.Y.

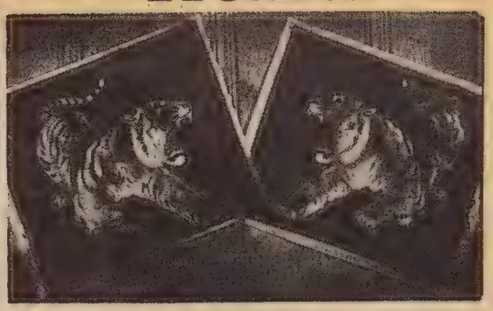
This is a roller crumb sweeper, and it's imported from England, no less. It works thusly: Come dinner and the guests have sprinkled the tablecloth with crumbs, just swish it back and forth in front of 'em. It'll scoop up the crumbs in a good 6" swath each time. Be nice to your wife and give her one for Christmas. Silver-plated cover. $5 ppd. K. D. McLean, Box 991 Grand Central, N.Y.





$100,000 went into engineering this truly fabulous, all-clear plastic, 4-cylinder motor-building kit. When assembled, the motor is a perfect miniature power plant to be turned over manually by means of the crank handle. All moving parts are clearly visible—*and everything works.* Tiny spark plugs (fitted with red bulbs) "fire" in their correct order. Valve tappets operate from precision-machined camshaft. Pistons and rods are connected to four-throw crankshaft in the same manner as any car engine. Timing can be adjusted for perfect "ignition." Clutch actually works. Complete 28-page instruction booklet makes assembly a cinch—and fun. Kit contains all necessary tools, battery. Caution: this is not a toy, but a precision-engineered motor. $24.50 ppd., and worth it. Chabon Scientific Co., 60-A East 42nd St., New York 17, N.Y.

TIGERS



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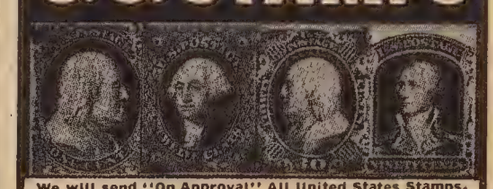

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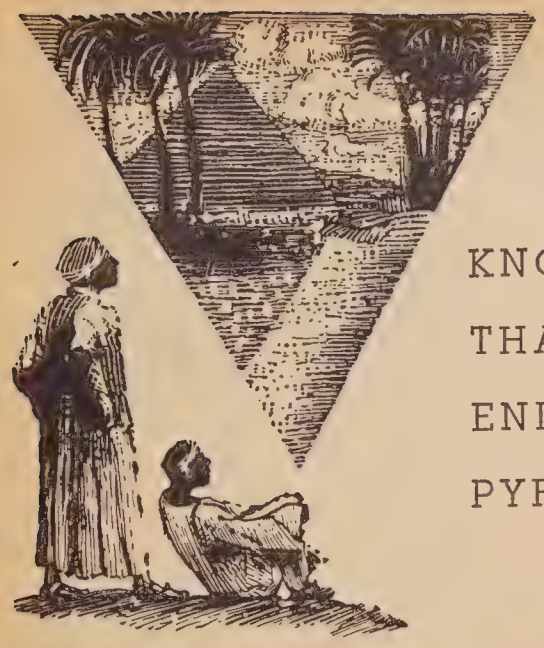

KNOWLEDGE
THAT HAS
ENDURED WITH THE
PYRAMIDS

A SECRET METHOD FOR THE MASTERY OF LIFE

WHENCE came the knowledge that built the Pyramids and the mighty Temples of the Pharaohs? Civilization began in the Nile Valley centuries ago. Where did its first builders acquire their astounding wisdom that started man on his upward climb? Beginning with naught they overcame nature's forces and gave the world its first sciences and arts. Did their knowledge come from a race now submerged beneath the sea, or were they touched with Infinite inspiration? From what concealed source came the wisdom that produced such characters as Amenhotep IV, Leonardo da Vinci, Isaac Newton, and a host of others?

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Fever of the Rail

THEY may talk of fevers, chills, and
a thousand other ills,
That go to make the doctors' human
code,
But the worst I know of yet,
Makes a fellow fuss and fret,
Is the hopeless, restless fever of the
road.
With the smoke and grease and dust,
And the cinders, oil and rust,
And a million friendly railroad smells;
With the lights white, green and red,
Runnin' through a feller's head;
Once he's worked there, he won't work
nowhere else.

They may have their tariff rates,
And their traffic sheets and plates,
And the policies that run the line;
But the whir of Number Two
When she's twenty overdue
To me is like the joy of rare old wine.
And I love the busy yard,
With the engines chuggin' hard,
And the whistles, bells, sweaten', swear-
in' crews,
And the north- and southbound freights,
And the sidin' clearance waits,
With the fireman a-cussin' at the flues.

There's the traffic steady stream,
And the hissin' of the steam,
And chugs and roars and other name-
less soundless;
And there's locals always due,
With an extra work or two,
And the crews gettin' ready for the
rounds.
There's a wheezin' noise of air
And the headlights' guidin' glare.
There's the station of the through
express.
Oh, the clickin' of the wheel
On the burnished strands of steel
Is as soothin' as a mother's soft caress.

When the caller comes in vain
And another's on the train
And I'm far beyond the reach of dis-
cipline;
When I've made my last long run,
On my final "thirty-one"
And I'm not laid out by heated box or
pin;
When I've made my last mistake,
And old Time throws on the brake,
And the boys they miss me when they
pass the cup,
I won't heed the semaphore,
But I'll walk right in the door
And I'll get a job in Hades, firin' up.

—*Anonymous*

RAILROAD

Photos of the Month

Christmas on the rails. A New Haven freight conductor adds a glittering touch to the festive decoration in his caboose.

Aaron G. Fryer

Driving snow muffles the rumble of wheels on the Pennsy main line as two P5's roll a half-mile of mixed merchandise past the old station at Overbrook in Philadelphia.

Dave Rorick, 110 S. Pacific St., Oceanside, Calif.

Between Portland and Golf Jct., Ore., the Bellrose and Oregon City cars of Portland Traction Co. follow the same route for five miles, occasionally pass one another.

Sand for a diesel locomotive. Martin Stopfel guides the flow of grit in the Reading engine-house at Rutherford, Pa.

Narrow-gage Crystal Springs & Southwestern train hauls passengers over a short stretch of track every Saturday, Sunday, and holiday at Travel Town, Los Angeles, which the city's Recreation and Park Department runs on a non-profit basis.

In 1870, during the Jay Gould regime on the Erie, a *de luxe* 4-4-0 bearing Gould's name was built for his personal use.

Eight-

They Turned Busy Canals into Dry Ditches, Helped to Win the Civil War, Opened the

by H. L. KELSO

IF YOU think this incident has nothing to do with locomotives, you are right, but keep on reading. An ancient ritual preceded the Olympic Games that began in Australia last fall. A torch, traditional symbol of those Games, was lighted in Greece by concentrated sun rays and was flown partway around the world to Cairns, a fair-sized town in Queensland.

From there, in relays of one man per mile, amateur runners carried the sacred flame for 2750 miles down Australia's eastern coast. They bore it aloft through arid desert and waving grass and widely scattered villages, often crossing and recrossing the railroad track en route. On November 22 at 4:32 p.m. the last man brought it proudly into the great stadium at Melbourne for the official opening of the Games.

These men symbolized the messengers who raced from Marathon to Athens nearly twenty-five centuries ago to report a Greek victory over the Persians.

But in Australia a modern touch was added. Fire engines in relays followed the Olympic torch-bearers for parts of their journely to guard against brush or veldt fires. One spark falling on a dry leaf could have started a holocaust.

And this leads us to locomotives. Sparks and fiery cinders belching from the stacks of wood-burning Eight-wheelers in North America many years ago, despite the invention of the spark arrester, ignited countless trains, bridges, forests, towns, and prairies, and may have caused more deaths than the Persians killed at Marathon.

An old hogger who had piloted Eight-wheelers through the Civil War penned these words: "In the darkest night, when the fog may be cut with a knife, he (the engineer) must drive his unpitying steed over trestlework, bridge, and culvert, either of which may have been undermined by torrents or storms or burned by sparks from the locomotive of a preceding train."

Railroading in those days was perilous. But the Eight-wheeler is remembered as a thing of beauty, a glamour girl without a rival, and a mighty civilizing force.

She was, in fact, the most famous locomotive type ever to run on rails. She changed the riding and shipping habits of a continent. She turned the once-busy canals into dry ditches, pushed open the door to the Western plains, helped to win the Civil War, and put thousands of stagecoach horses out to pasture.

The Eight-wheeler, more than any other single factor, ushered in the

In 1863, during the Civil War, Rogers built the first Mogul, No. 36 of the New Jersey Railroad & Transportation Co.

wheelers

Door to the Western Plains, and Put Thousands of Stagecoach Horses Out to Pasture

Golden Age of Railroading. She was the first thing on wheels to exceed 100 miles per hour and she served as a guinea pig for the first Compound locomotive, the Westinghouse airbrake, and the Belpaire boiler. No other type came anywhere near her fame and glory.

Technically, there were two kinds of Eight-wheelers—the 4-4-0 and the 2-6-0, or Mogul—but the term usually refers to 4-4-0's.

No road did more to develop the steam engine than the Pennsy; but in 1834, when the Sellers brothers dreamed up a hitherto-unknown 4-4-0 out of a clear sky, the Pennsylvania State Railroad, as it was then called, turned down the design as too revolutionary.

Two years later Henry Campbell designed the first 4-4-0 that was actually built. The builder, James Brooks of Philadelphia, produced a rough-riding contraption in 1837 for the Philadelphia & Germantown (now Reading).

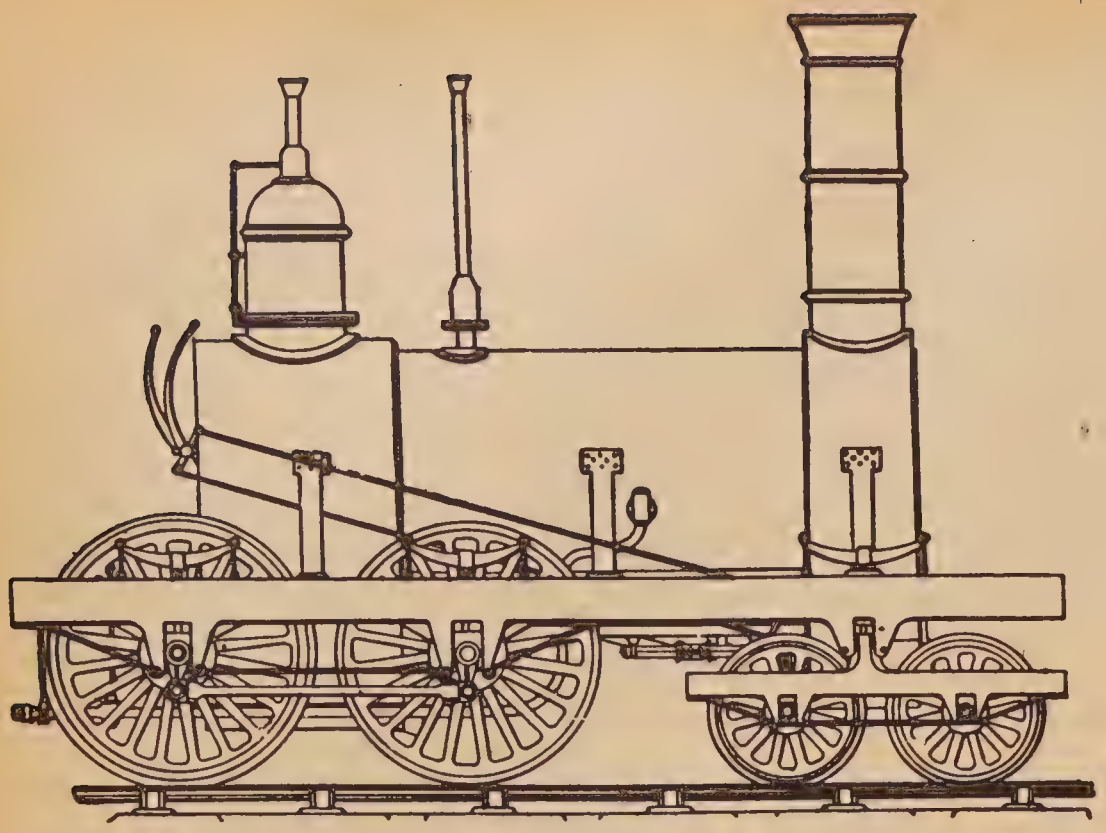
Later, Eastwick & Harrison, also of Philadelphia, built the first *successful* 4-4-0's. Their design included Joseph Harrison's equalizing beam, patented in 1838, which gave the engine the flexibility it needed to run on rough or crooked track.

As a result, the 4-4-0 became so widely accepted that men called it the American standard type.

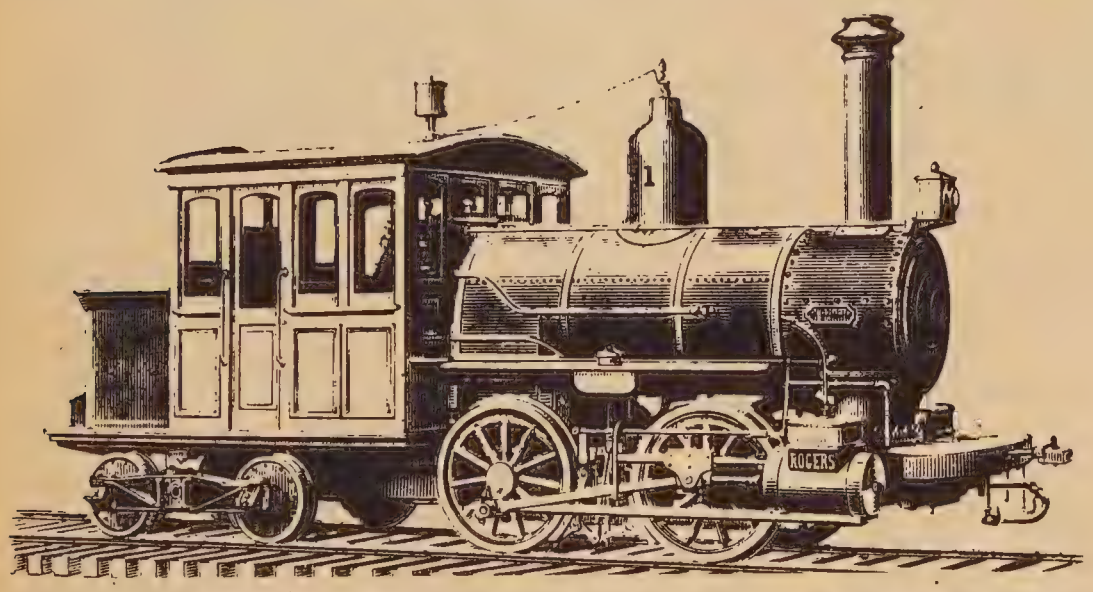
AS THE DEMAND for Eight-wheelers increased, many large machine shops began building them. Paterson, N. J., alone had four different firms turning them out. Nor should we forget such honored names as Baldwin, Mason, Cooke, McQueen, Rogers, Brooks, Blood, Burnside, Grant, Hinkley, Danforth, Buchanan, and Vauclain.

Until the ingenious and artistic William Mason gave them grace and beauty in the mid-1850's, the Eight-wheelers were rather crude, each builder having his own idea of how an engine should look and perform. On each locomotive the shape and tone of the bell, the contour of sandbox and steam dome, the shape and type of stack, and the headlights and nameplates reflected her designer's taste.

In early days the Eight-wheelers were ornate affairs, profusely splashed with red paint. Take, for example, the *Commodore Vanderbilt* that Schenectady built for the Rensselaer & Saratoga in 1872. Her drivers were a brilliant red and the spokes striped with gold, with a large gold star on each hub. Smaller gold stars adorned the wheel rims. Her overall coloring was green and red, with gold-leaf lettering in script. Portraits of the handsome Commodore himself were painted in color on two sides of her box head light.

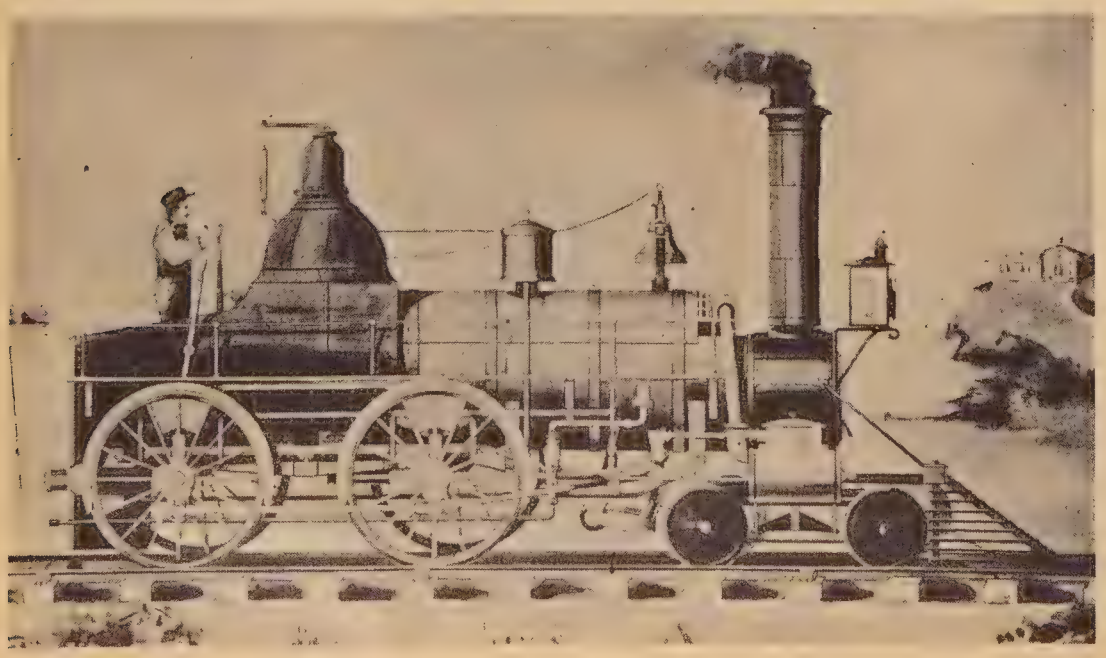


Henry Campbell's design, built by James Brooks for the Philadelphia & Germantown Railway in 1837, was not at all successful, but it started 4-4-0 history.



Forney type, designed by Matthias N. Forney, built by several companies, was used mostly on the New York and Chicago els until about the turn of the century.

A Richard Norris & Son contraption that antedated the engine cab had a girl carrying a parasol painted on the headlight. (The hogger himself needed a parasol.)



Yes, sir, the Eight-wheeler had color and style, with an elegance that today's gaudy diesel-electrics cannot match. They were the pride of the hoggers who ran them—and a headache for the fireman who had to keep them brightly polished.

Oldtimers down in Nashville, Tenn., remember the trim Rogers 4-4-0 that John W. Thomas, president of the Dixie Line, rebuilt into what has been termed the most beautiful engine ever to run in the South. Her domes, cylinders, pipes and railings, bands, and other fittings were of highly polished brass, and in the dazzling sun this gave her the effect of being on fire. Her arched-windowed cab was made from the finest oak and an expensive clock nestled on the boilerhead among the gleaming gages and valves. She also boasted an extra large sweet-sounding chime whistle and a silver-toned bell. Named the *Tennessee,* she was used only on John W's special train and on the pay-car's monthly trips over the line.

The Rev. Henry Ward Beecher, a noted orator of the Eight-wheeler era, once remarked that he liked to go past an engine-house and see the sons of industry pet their engines with loving care. Those boys really went overboard in keeping them shined like a new coin.

One engineer was most fussy. If the weather looked like rain, he'd have the fireman coat the brasswork of his pet with tallow to protect it against water, and when the sky cleared again the fireman was required to go over it with a polishing cloth. Another runner would check the polishing job with a clean white handkerchief, and woe be to the poor ashcat if it wasn't perfect.

Such unreasonable demands in time caused the firemen to clamor for more pay or less work, and when the Brotherhood grievance committee took up the matter with railroad managements the days of the brass-bedecked locomotive faded into oblivion.

As early as 1869 Eight-wheeler No. 13 rolled out of the Pennsy shops rigged up with Westinghouse "atmospheric" brakes—the first en-

An Eight-wheeler "caboose hop" on the old Oregon Railroad & Navigation Company (now part of Union Pacific system).

gine in regular service so equipped. The Pennsy also designed and developed the famous Belpaire boiler and No. 1321, built in 1889, was the first Eight-wheeler to utilize it. The design's purpose was to create a boiler-top conforming to the nearly flat contour of the crown sheet beneath it. Connecting staybolts were then of equal length and produced less skewing action when expanding.

The Pennsy's long line of Eight-wheelers, including the Belpaire-boilered Class D16, all built in their own shops, are considered by experts to have been the finest locomotives that ever turned a wheel. Some 429 of them saw service on the system between 1895 and 1910, and a few as late as 1925.

Much could be said for the Camelbacks, sometimes called Mother Hubbards, which had their cabs astride the boiler. On the Reading such engines were known as "swallow tails," due to the lateral sway and the appearance of the firebox where it connected with the tender. They were equipped with the Wootten firebox (extra wide and shallow in dimensions) and the grates were designed to burn culm.

MOST of the trains that were robbed in Western style were pulled by Eight-wheelers. The four Reno boys set the pattern. In 1868 they stuck up a passenger train on the Jefferson, Madison & Indianapolis line at Marshfield, Ind., and galloped off with $97,000 in loot. One of them was given a twenty-five-year lease on a small room with barred windows. The other three made their exit from this exciting world by dancing on air at the end of ropes yanked by vigilantes.

Even that did not deter other bandits from gambling their lives on robbing steam cars. Among those who followed the Renos were the James gang, Sam Bass, the Daltons, Bill Carlisle, Sontag and Evans, and Oliver Perry, who died insane.

On the night of October 16, 1859, when John Brown and twenty armed followers seized the arsenal at Harper's Ferry in what was then Virginia, Engineer William McKay steamed into town on a 4-4-0 with the eastbound night express and he found himself in the middle of a lively fracas. You see, the B&O tracks skirted that arsenal.

And shortly after the Civil War started, "Stonewall" Jackson seized Harpers Ferry for the Confederacy and "borrowed" some B&O Eight-wheelers and rolling stock. He asked the B&O's president to route all trains through Harpers Ferry between the noon hours of twelve and one o'clock, on the pretext that puffing locomotives disturbed his soldiers' sleep.

The management, grateful because their rails had not been torn up, quickly obeyed. Jackson's men then bottled up the trains from east and west, captured a flock of engines and cars, and ferried them across the Potomac to work for the South.

Many thrilling stories about 4-4-0's came out of the war, particularly "The Great Locomotive Chase" of 1862, recently shown in a Walt Disney film. The Union saboteurs who had seized the *General* were overtaken by the Confederates in another Eight-wheeler, the *Texas,* because they couldn't stop to "wood up." Talk about tremendous trifles that change destiny, the raid failed and the war was dragged on for years because a 4-4-0 locomotive ran out of fuel!

It was standard practice on some roads for the crew to pay for cordwood with wooden tokens instead of

Henry Ford Museum and Greenfield Village

The *President*, a Rogers-built woodburner which once transported Thomas Edison, is now a museum piece in the old village Henry Ford recreated at Dearborn, Mich.

cash. The Ogdenburg & Lake Champlain, which had only thirty-odd engines, bought more than 46,000 cords of wood in a single year for their fireboxes. That amount of fuel would make a pile 70 miles long!

"Before the era of cylinder oil and valve oil, the wood-burners' valves and cylinders were lubricated with beef tallow," muses an oldtime hogger, John Burns. "Tallow came to the roundhouse oil-room in large oak barrels. In zero weather we had to chop it out with an ax. The storeroom clerk would knock in the barrelhead. If the tallow was fresh he kept it in storage and weighed it out to the firemen as they called for it. But in hot weather when the tallow was over-ripe, with the barrel full of fat wrigglers which gave off an offensive odor, he would roll it outside and invite us to help ourselves."

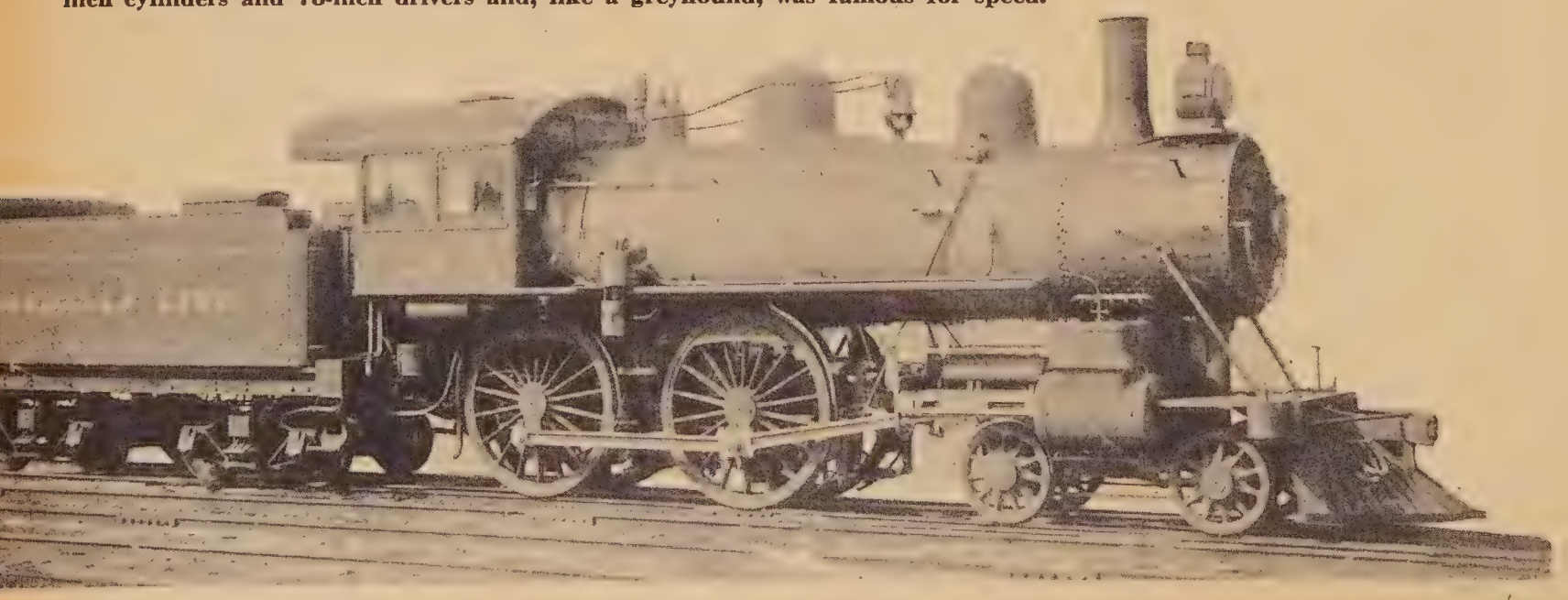
Burns recalls a lot of reckless running in those days. "When an engineer wanted more steam than the old kettle was built to carry, he'd hang a couple of car links or a monkey wrench onto the pop valve, or have the head brakeman hold it down. Then he'd sling his cap over the face of the steam gage, put on the blower, say a prayer for safety, and take a run at the hill. And he went over the top—if the old Eight-wheeler didn't blow up and take the crew to glory!"

Maybe Burns was right, but the only way we know to hold pop valves was to screw them down.

WILLIAM DADDE, an Illinois Central eagle-eye of the Nineties, was rolling a local out of Cairo, Ill., when he and his fireman spied a billygoat standing between the rails. Now, Dadde didn't want to hit a living "critter," but he just couldn't stop in time, so he kept on going and hoped for a miracle.

Then he looked back, but there was no sign of the goat. Without stopping, he sent the fireman out on the running board to the front to probe the mysttry. There on the pilot stood Mr. Billygoat, astonished but apparently enjoying the ride. A couple of miles further on, Dadde stopped the train. The goat *baa-ed* goodbye, nonchalantly stepped down off the engine, and then wandered off.

Alco built this 4-4-0 for a road that became part of the Pennsy. She had 20x26-inch cylinders and 78-inch drivers and, like a greyhound, was famous for speed.

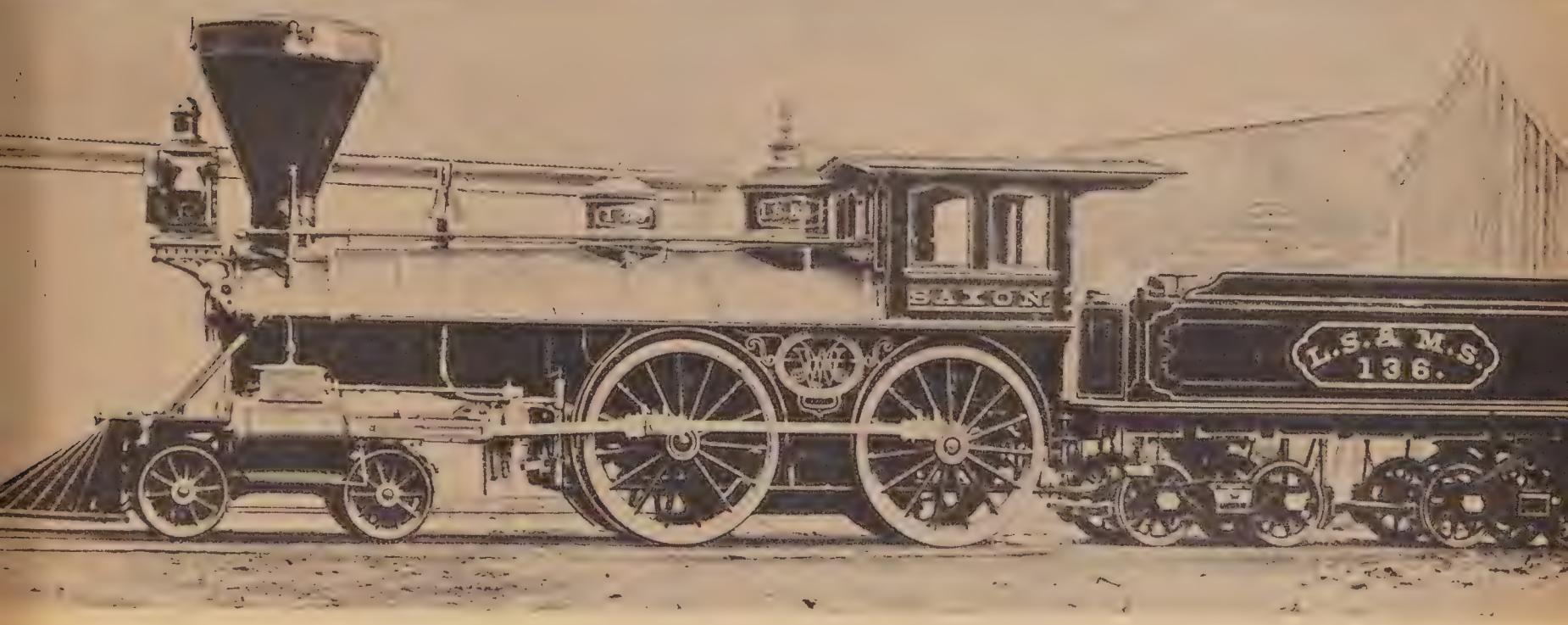


Milwaukee Road

In the days of tall straight stacks, high-stepping Eight-wheeler No. 337 was the pride of the Chicago, Milwaukee & Pacific.

William Mason gave 4-4-0's grace and beauty. For example, the Lake Shore & Michigan Southern No. 146, built in 1871.

Fred Jukes. Blaine, Wash.



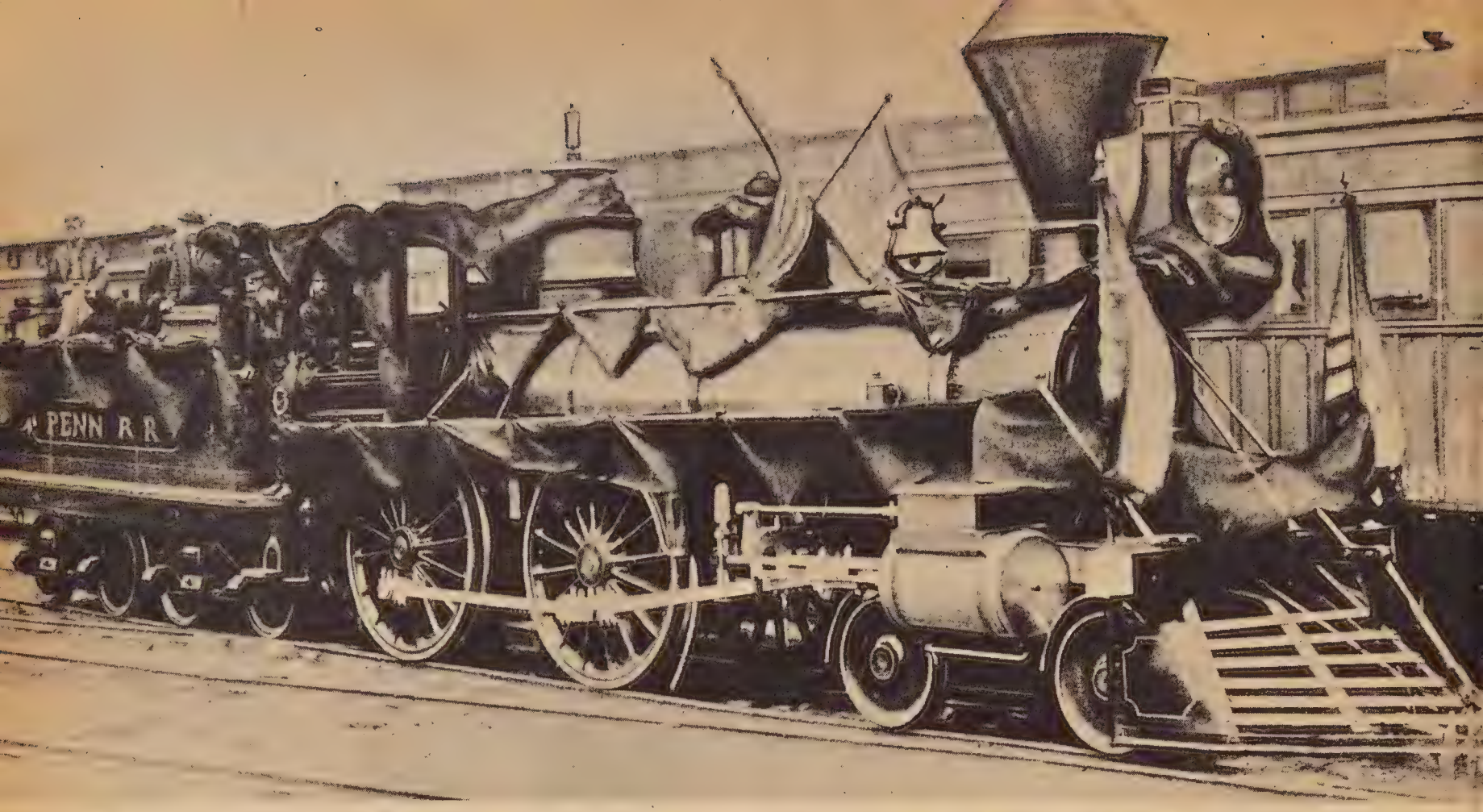
We come now to Ike Reber, a Missouri Pacific hogger who ran out of Osawatomie, Kan., about sixty years ago. Ike lived on a small farm beside the main line and his hobby was raising hogs. And having had some experience with hogs on a railroad track, his pet peeve was farmers who allowed their porkers to wander onto the right-of-way.

One evening Ike was bringing the local freight into town when he noticed a few big black Poland Chinas rooting around the track. Ike widened on the throttle of his Eight-wheeler and plowed into them, killing three. Then, muttering that he'd taught those fool farmers a lesson, he pulled into the Osawatomie yards and tied up. Sad but true, when he reached home that night, Mrs. Reber broke the news, not too gently, that he had slain three of his own hogs!

One Eight-wheeler, the *Milwaukee,* of the old Welland Railway, helped to repel the only hostile invasion of Canada attempted since the War of 1812. Hundreds of Irish-American soldiers, cast adrift by the ending of the American Civil War, organized the Fenian Society with the avowed purpose of freeing Ireland from the British Empire. Armed and secretly drilled, they invaded Canada on a June day in 1866, crossing the Niagara River at Ridgeway, Ontario, and advancing as far as Port Colborne.

John Flack, the Welland's telegraph operator, flashed the news and Canadian volunteers rose to defend their country. They piled into a train pulled by the *Milwaukee,* made a wild run from St. Catherines, and triumphantly drove the Fenians back across the border.

About three years later, on May 10, 1869, two celebrated Eight-



Flag-draped Eight-wheelers, including this Pennsy engine, hauled Lincoln funeral train from Washington to Springfield.
From collection of Freeman Hubbard

wheelers, the Central Pacific's flaring-stacked, wood-burning *Juipiter* and the Union Pacific's slim-stacked coal-burning No. 119, met at Promontory, Utah, for the golden spike ceremony that marked the completion of the first transcontinental line.

Although the Eight-wheelers grew bigger and faster by the year, such factors as inadequate rails and poor roadbed, among others, prevented them from attaining their speed potential. But by about 1870, when iron rails gave way to steel, and reinforced bridges and rock-ballasted roadbeds were built, those iron horses began to kick up their heels.

Lou Hawks' dramatic run of 126 miles in 150 minutes flat has become a legend. That was the dreadful night in 1871 when Chicago was burning. Lou burnished the rails of the Chicago & Alton with a train carrying fire apparatus from Bloomington, Ill., to fight the conflagration. His engine was No. 97, the *Major Nolton,* as pretty a 4-4-0 as you'd want to see.

Another great run went down in history on July 4, 1875, when the New York Central began operating a Sunday newspaper special from New York to Niagara Falls, 470 miles, in eleven hours. Engine No. 110, a McQueen Eight-wheeler with 73-inch drivers, was assigned to the 146 miles from Syracuse to Buffalo. Hauling three cars, she left Syracuse thirty minutes late, averaged more than 70 miles per hour, and pulled into Buffalo five minutes ahead of time. That was really stepping through the dew!

First passenger engine with a Wootten-type boiler was a "Mother Hubbard," No. 411 of the Philadelphia & Reading, built in 1880. The fireman worked in rear.

ONE DAY in 1876—a day that shall live in glory—a special train consisting of the Pennsy Eight-wheeler No. 573, the *Samuel J. Tilden,* with three passenger cars tied to her tail, roared out of Jersey City to set a transcontinental record from East to West Coast. It carried a famous Shakespearean actor, Lawrence Barrett, who was winding up a New York performance on May 31 and scheduled to appear at a San Francisco theater on June 5. Well, he made it. Actual running time was 84 hours and 17 minutes over the Pennsy, the C&NW, the Union Pacific, and the Central Pacific—with Eight-wheelers all the way!

But the speed king of them all was the New York Central's 999, design-

ed by William Buchanan. This high-stepping Eight-wheeler rolled out of the Central's West Albany shops in April, 1893, and, after trial runs, was assigned to the *Empire State Limited,* the road's fastest and flossiest streak of varnish. Although the engine, in a general way, was no better than some of Buchanan's earlier Eight-wheelers, her 86-inch drivers gave her amazing speed. Her performance on the run resulted in the Central's decision to try for a record that would astound the world.

On May 10, 1893, Charlie Hogan, who handled her between Buffalo and Syracuse, was told to take the bridle off and to run the 999 faster than any engine had ever run before. Charlie was the right engineer for the job. Between Batavia and Buffalo he coaxed the Buchanan beauty up to a global record of 112½ miles per hour.

That same year the Central inaugurated their first 20-hour New York-Chicago express. Thereupon, the Pennsy took up the challenge with their D16 Eight-wheelers. The result was a sensational speed war and, as we know, the Pennsy has matched the Central minute for minute to this very day.

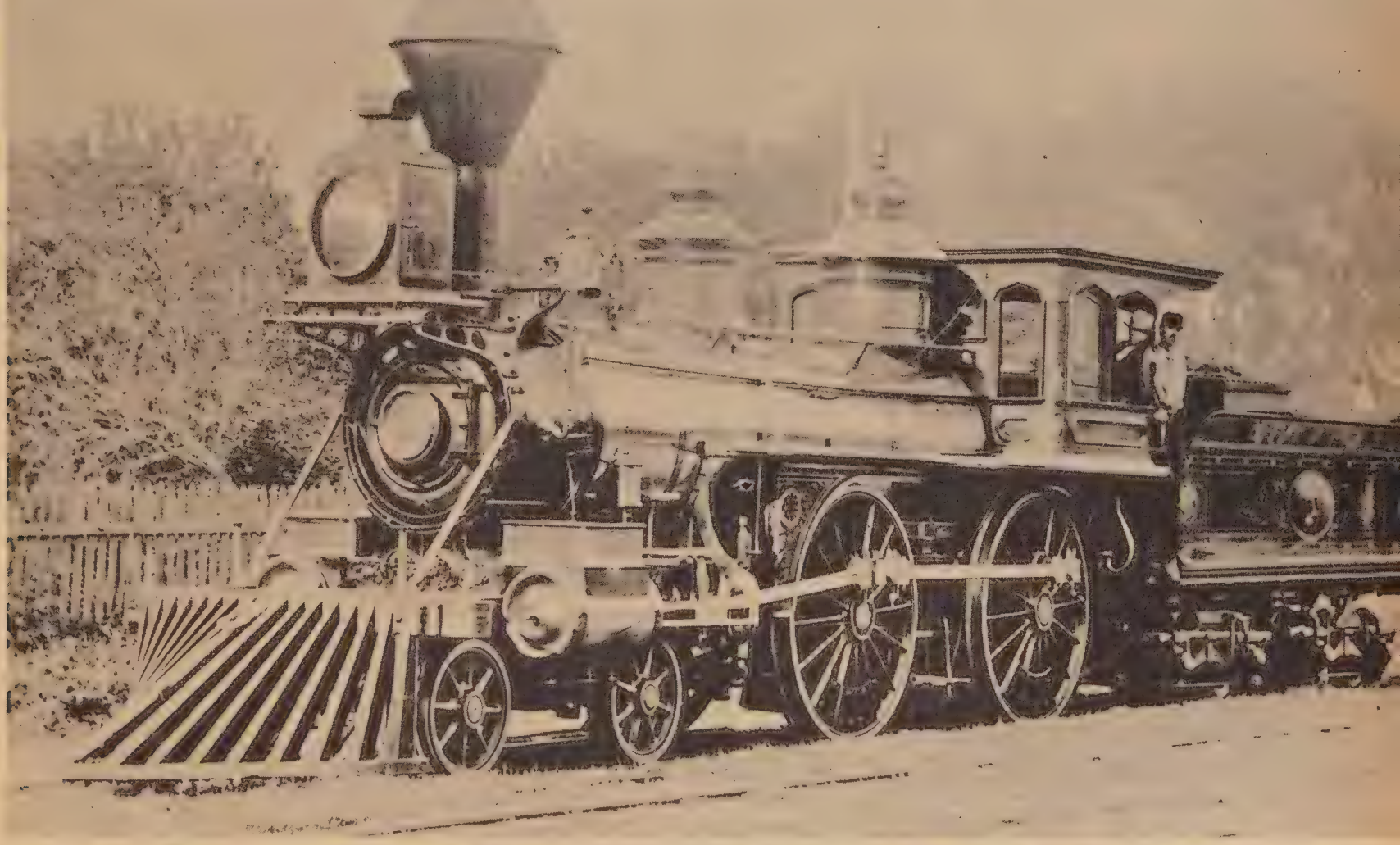
In 1901 the Lackawanna, with John Draney at the throttle, ran a special from New York to Buffalo carrying Dr. Edward G. Janeway to the bedside of President McKinley, who had been shot by an anarchist. Draney, in the cab of an eight-wheeled Camelback, No. 936, made the 396-mile run in 405 minutes, reputedly attaining a top speed of 115 miles per hour, but this sensational claim was never officially verified.

Fabulous, indeed, was the Eight-wheeler. Remember her as the "leading lady" when she co-starred with Engineer Jimmy Root, hero of the great Hinckley fire of 1894; with Jim Hill in the building of the Great Northern; with Tommy Holmes, the Rock Island's nineteen-year-old engineer, who won a mail contract on the Chicago-Omaha run in 1871. And she played more somber roles in the terrible wrecks at Ashtabula and Chatsworth, and too many others, not to mention the first big railroad strike, in 1877.

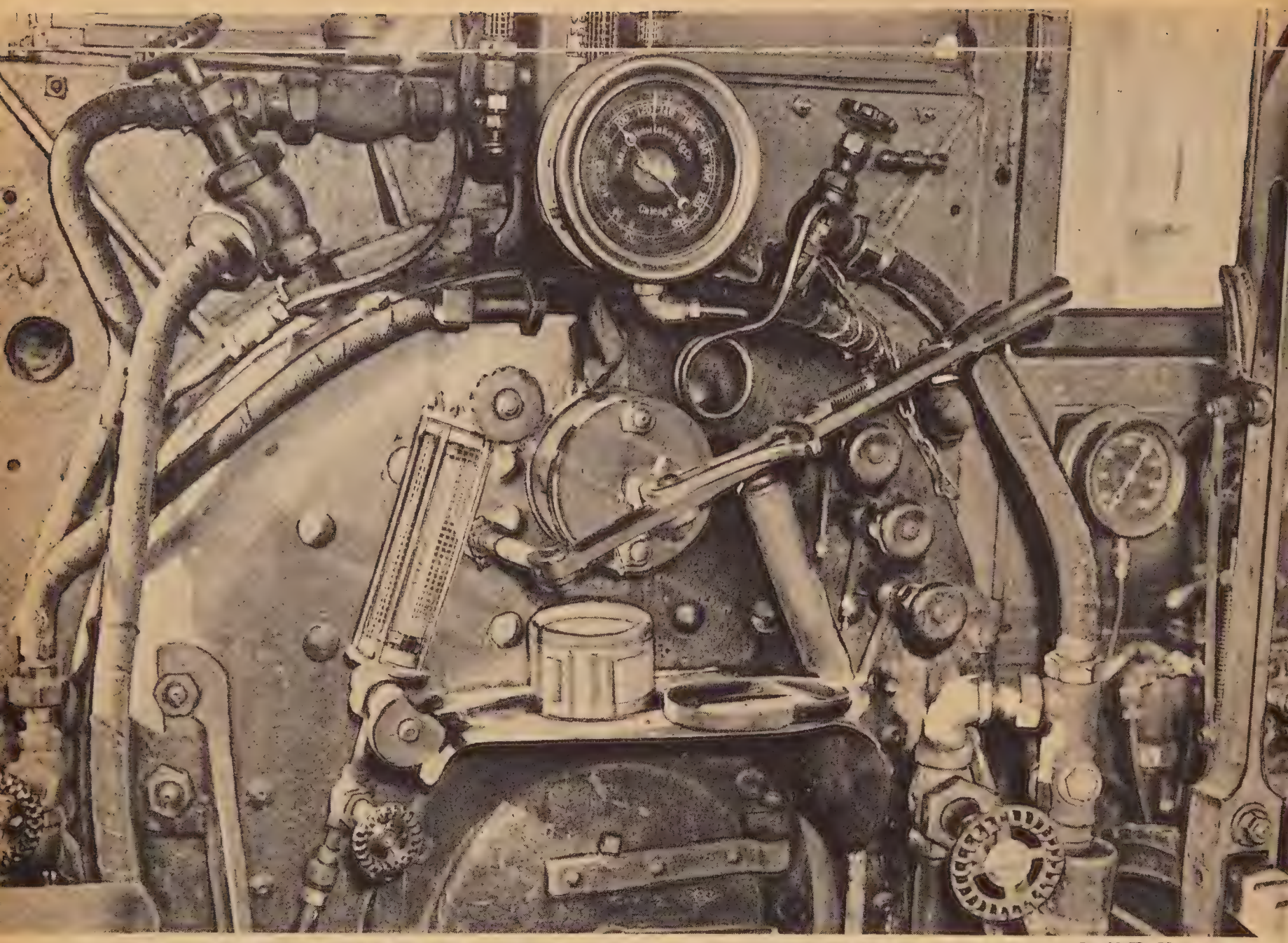
EIGHT-WHEELERS were not merely numbers. No, sir! Most of them bore monikers—romantic, geographic, national or local celebrities, names signifying bodily or mental traits such as *Alert, Audacious,* etc.; names of fierce or fleet animals, names of ancient deities, and so on. But after a long and careful search of old rosters, we found only one Bible name, *Samson.* Maybe some reader could explain why.

The Santa Fe, which discontinued nomenclature around 1882, named most of its engines for gentlemen now forgotten. The same goes for the Espee. Quite a few Eight-wheelers honored Presidents and Civil War generals. In 1861 the Hudson River Railroad, as a tribute

Chicago, Rock Island & Pacific Railroad



Silver engine *America* was built by Grant at Paterson, N. J., for Paris International Exposition of 1867 and got highest award. The Rock Island bought her in 1869. Two years later this dazzling 4-4-0 beat the North Western's fastest locomotive in an exciting race from Chicago to Council Bluffs, Iowa, winning a lucrative mail contract and creating a legend.



David H. Mann

Having fired many an Eight-wheeler, our author is familiar with cab interiors such as the *William Bowker's*, shown here.

to newly-elected President Lincoln, called two of its engines the *Union* and the *Constitution.* Ironically, in 1865, both of them pulled Lincoln's funeral train.

In 1870, during the Jay Gould regime, the Erie built a very special 4-4-0 for his personal use and named her for him. She had the state seals of New York and New Jersey emblazoned on her tender and a silver-framed portrait of Gould himself between the drivers.

The Michigan Central went in for such glamorous names as *Flying Cloud, Golden Eagle,* and *Trade Wind.* Although a steam engine, like a ship, is generally referred to as "she" and although it was common practice in old days for the windjammer to bear a wooden female figure with naked breasts on her prow, hardly more than a score of the many hundreds of eight-wheeled locomotives had feminine names. Why, we don't know.

Most famous of the lot was the *Countess of Dufferin,* which helped to open the Canadian West. You can see her any day in front of the Canadian Pacific station at Winnipeg.

The first three locomotives to run on the Ontario, Simcoe & Huron (now Canadian National) were the *Lady Elgin,* the *Toronto,* and the *Josephine,* all Eight-wheelers, built respectively in 1852, 1853, and 1853. The *Toronto* was the first locomotive built in Canada. The *Lady Elgin* came from the Portland (Maine) Manufacturing Company, and the *Josephine* from the New Jersey Locomotive Works at Paterson. A Canadian folksong entitled "Dandy Cy of the *Josephine*" was written around Engineer Cyrus Huckett.

To mention a few others with feminine names: *Lady Washington* (Philadelphia, Wilmington & Baltimore), *Virginia* and *Christiana* (Philadelphia & Wilmington), *Elizabeth* (New Jersey Railroad), *Virginia* (Newcastle & Frenchtown), *Virginia* (Raleigh & Gaston), *Augusta, Louisa and Virginia* (three in one —Richmond, Fredericksburg & Potomac), *Victoria* (Buffalo & Lake Huron), *Emma* (Housatonic Railroad), *Jenny Lind* and *Florence Nightingale* (St. Lawrence & Atlantic), *Dot* (Moscow, Canton & St. Augustine), and *Emma Nevada*

(Ward Kimball's Grizzly Flats Railroad). The last-named is a Mogul.

The Great Western had a *Lioness*, a *Tigress*, and six Eight-wheelers named for Greek goddesses.

MANY hoggers with plenty of seniority had their names painted in gilt on the sides of their cabs. Among them was Charles H. Grant. Charley was so proud of his Eight-wheeler, Wabash No. 21, and took such good care of her that in 1906, when the Wabash sold the engine to the Yosemite Valley Railroad, he was chosen to deliver her to the California road. But when he arrived there he could not bear to part from No. 21. Resigning from the Wabash, he hired out to the YV and continued to run his beloved engine, with his name still on the cab, for the rest of his active life.

The last big road to name its locomotives for their engineers was the Southern, and the last eight-wheeled engine to be named for its hogger, was the Mogul *H.H. Paine*, on the Woodstock, a Vermont short line. Mr. Paine himself, thin and wiry, with silver-gray hair, handled the throttle of his namesake on the final run before the Woodstock was abandoned in 1933.

A comprehensive account of the Eight-wheeler would fill several books. It would include, from a technical angle, the stories of valve gear, stacks, boilers and fireboxes, fuel, and a hundred other items. It would be a drama of metal and men —builders who advanced locomotive progress. Baldwin, Schenectady, the smaller companies, and the many roads that built their own engines.

Eight-wheelers reached their zenith in weight in the Southern Pacific's Class E 27s and in power in the Reading's Class D-11-S. The latter outranked the E 27s in tractive effort by some 2100 pounds. The Espee engines, 15 in all, built by Baldwin in 1911, ran their last miles in 1935-'36. The Reading engines, Baldwin-built in 1914, remained in service until the late 1940s.

The B&O's first Eight-wheeler was built by Eastwick & Harrison in 1839. The last one on the B&O was scrapped in 1935—except for the *Wm. Mason*, which is still kept in good condition and used for exhibition purposes.

Hollywood studios own the *Jupiter*, the *Inyo*, and the *Genoa*, among others, and show them occasionally in feature films. New York Central's 999 (rebuilt), Pennsy's 1223, Northern Pacific's 684, Central of Georgia's 349, and Canadian National's 40 belong to the roads named and are trotted out now and then, for exhibition purposes. All but No. 40 can still be steamed up.

Inoperable 4-4-0 museum pieces include one of the old "Eddy clocks" and a triple-domed Chicago & North Western engine, both at Purdue University, Lafayette, Ind. Also:

Ford Museum, Dearborn, Mich.: Lake Shore & Michigan Southern engine built by Mason in 1888; Atlantic & Gulf *Satilla*, Rogers, 1880; Detroit & Lima Northern engine, Baldwin, 1897; Toledo & Detroit engine, Baldwin, 1915.

St. Louis, Mo., Museum of Transport: Boston & Albany No. 39, an "Eddy clock"; C&NW No. 274, Baldwin, 1873; MK&T 311, Baldwin, 1880; Lackawanna 952, a Camelback.

B&O Museum of Transportation, Baltimore, Md.: B&O No. 25, *Wm. Mason*.

Travel Town Museum, Los Angeles, Calif.: Stockton, Terminal & Eastern No. 1, built 1867.

Chapman, Ala.: H. W. Smith Lumber Co. No. 14.

Palo Alto, Calif.: Central Pacific No. 1, *Gov. Stanford*.

Atlanta, Ga.: Western & Atlantic *Texas*.
Chattanooga, Tenn.: W&A, *General*.
St. Paul, Minn.: GN No. 1, *Wm. Crooks*.
El Paso, Tex.: El Paso & SW. No. 1.
White River Jct, Vt.: B&M No. 494.
Vancouver, B.C.: Canadian Pacific No. 374.

Winnipeg, Man.: CPR No. 1, *Countess of Dufferin*.

Shiloh, La.: Red River & Gulf No. 104; SP No. 250.

In 1928 Baldwin turned out—for the Chicago & Illinois Midland—the final Eight-wheeler built for American use. No engine of that type can be found in regular service in the States or Canada today. They have whistled in their last flag and dumped their last fire, but in the hearts of appreciative men they will live on forever. ●

Some 4-4-0's headlights were traveling art galleries. Betty Bartholomew poses beside one of them to give you some idea of its size.

California-Nevada Railroad Historical Society

Locomotive Engineers Journal

America's first overhead monorail line, about two blocks long, has been set up experimentally at Houston, Texas. Sponsors claim its coach could carry 60 passengers at speeds up to 100 miles per hour. Traffic experts in big cities are studying it. The idea isn't new. A monorail system has been operatiing successfully at Wuppertal, Germany, for half a century.

New Trends in Rapid Transit

by ELMER C. WRAUSMANN

VICE PRESIDENT, ST. LOUIS CAR COMPANY

WIDESPREAD street traffic congestion has brought rapid-transit rail service to the fore. Repeated experience has shown the futility of trying to move the ever-increasing mass of various vehicles through congested streets at anything even approaching a fast pace. More and more people are becoming convinced that rapid-transit rail service is the most effective means for moving large numbers of passengers swiftly in vast metropolitan areas.

It is significant that in 1954 Toronto completed and placed in operation a new 4.5-mile combination subway and open-cut rail rapid-transit installation with 100 new cars. Six additional cars were received later and 34 more were ordered. In 1955 Cleveland inaugurated a new 13.5-mile rapid-transit installation with 68 new cars. Cleveland then started work on an extension about two miles in length, and the voters have authorized an additional downtown subway loop of about 1¾ miles.

Since 1948 New York has contracted for 1610 subway-elevated cars, with additional ones in the offing. Chicago has purchased 600 subway-elevated cars since 1948, with others developing. In 1951, Boston enlarged its rapid-transit fleet with 40 new cars and plans to buy more. The established rapid-transit installations in Philadelphia and those connecting New Jersey communities with New York through the Hudson River tubes are important parts of improvement planning.

Many municipalities are keenly interested in rail rapid-transit and some are considering the possibility of monorail or other suspended-car installations. A number of railroad

commuter systems also have purchased new equipment and are including additional new cars in their plans to improve service. This increasing use of rapid-transit service by rail is further evidenced in recent traffic surveys and engineering recommendations compiled for civic authorities in metropolitan areas.

Rapid-transit rail service may be provided in many ways and with various types of cars. It is considered to be any rapid form of public transport rail service that operates on its right-of-way apart from the confusion and delays of street traffic.

Since relatively few people realize the vast overall progress made in improving the wide range of rapid-transit vehicles, we will consider briefly some developments in car bodies and trucks. We will emphasize the constant advances being scored in car development and building techniques to assure ultra-modern vehicles with the latest engineering features.

Rapid-transit cars differ greatly in appearance, dimensions, and characteristics. This variance is understandable because of differences in the kind of service rendered in various areas, and the facilities and structures available.

St. Louis Car Company

Latest type of lightweight equipment used in Chicago subway-elevated service. In 1950-'51 the St. Louis Car Company built the first 200 such cars for Chicago Since then, 470 more of them were ordered in the city's modernization program.

Even for completely new rapid-transit installations, the topography and general layout of the surrounding area are prime factors. Subway-elevated service requires cars without steps, for platform loading. In surface-loading rapid transit, cars must be so arranged. Suburban or commuter service needs cars meeting those conditions, while overhead-suspended installations call for still another type.

Modern lightweight rapid-transit cars for street service are closely akin to the Presidents' Conference Committee car (commonly known as the PCC car). Numerous developments in the rapid transport field grew out of that car. It had its beginning when a group of transit company presidents got together to devise ways and means of developing a lightweight car to replace the heavy unattractive cars, some 40 years old, which were still being operated and were losing patronage.

A thorough survey and research job was done. After years of tests and designs, the time came actually to build a fleet of such cars, to prove in actual practice the scientific theories developed, and an order was placed with the St. Louis Car Company for 100 units. Those 100 PCC cars were designed, built and delivered. They proved so highly successful that close to 5,000 more have since been built.

In that car all previous practices and concepts of car design were discarded and an entirely new vehicle was developed. There were new motors for rapid acceleration, new pedal-type controls, resilient wheels, hypoid gearing with anti-friction bearing axles, combination rubber and steel springing, entirely different braking that discarded noisy rattling brake rods and hangers, superior lighting, more speed, light weight combined with safety and strength, and attractive styling.

This basic PCC car was steadily improved, and arranged with automatic couplers so that it could operate singly or in multiple, with door openings to suit operating conditions, and signaling equipment as required.

Cars with floor height matching the platform level are required for subway, elevated, and separate right-of-way use where platform loading permits passengers to walk in and out rapidly without the hazard and loss of time in stepping up or down.

Lightweight platform-loading cars

embodying basic features and equipment of the PCC are now in rapid-transit service in Chicago, Cleveland, and Boston. These cars were developed and built by the St. Louis Car Company, aided by engineering and mechanical personnel of the operating properties. They are run as semi-permanently connected two-car units with cab ends facing outward, but may be used as single two-car units or in trains. Cleveland has 12 cars arranged to operate either as singles or in trains.

All are of the same general lightweight type and have two large double-door openings on each side to cut down the loading and unloading time. Bodies are mounted on two 4-wheel trucks with wheels either 26 or 28 inches in diameter, either of the all-steel or resilient type.

Chicago cars are equipped with third-rail current collection. Cleveland uses overhead wire with pantagraph, while Boston has a combination of both third rail and overhead pantagraph. All are powered with four PCC-type standard 55-horsepower motors and have hand-operated controls with automatic acceleration and braking.

The Chicago car was the first, lightweight, platform-loading, rapid-transit vehicle built for operation with existing PCC-type control equipment. It was painstakingly developed after much research and experimentation. As a result, it is the lightest-weight, platform-loading rapid-transit car ever built and has a fine performance record.

Improvements have been built into each succeeding lot of PCC's and, even though they are highly successful in operation, major advances and experimentation are progressing toward their further development. To improve the performance without using heavier horsepower motors, the electrical equipment manufacturers are making available motors and controls that greatly increase the horsepower of the original PCC cars without enlarging the truck space.

Equipments of this kind are now in experimental service in Chicago.

Trucks are being constantly improved. A completely new cast-steel truck with hypoid gear drive was designed and built for the new Cleveland cars. It offers smooth riding qualities, quietness, stability, and ease of maintenance.

There is no standardization, to date, of rapid-transit cars. Each property decides what it requires to meet its operating conditions. New York, for instance—where extremely heavy loads must be transported in peak periods—uses cars larger and heavier than the PCC rapid-transit type. Philadelphia and Toronto also use heavier type cars.

A lively interest prevails in monorail and other forms of suspended vehicles for rapid transit. Much engineering work and research has been accomplished on such vehicles. Besides the installation at Wuppertal, Germany, which has been in service since 1901, recent experimental installations abroad as well as in the United States are being studied with the idea of developing suspended vehicles with the latest materials and building techniques.

Unless you are an intimate part of the development and building of new cars, you can hardly realize the great amount of scientific and practical experimentation involved. It is a primary objective always to build into a car all possible features to provide pleasing service and attract new riders. It must be comfortable, quiet, easy riding, convenient and compelling in appearance and yet stay within the limits dictated by the economics of the service.

These goals are reached cooperatively through many conferences. Layouts and calculations are made, studied, discussed, and revised. Mocks are built, studied, and altered, every detail is scrutinized, entirely new designs may be introduced, and all equipments and components are considered with a view toward weight reduction. To assure flawless materials, magnafluxing, X-ray, and other inspection and test methods are used when necessary.

Since rapid transit by rail has proven its effectiveness in moving large numbers of people swiftly in vast metropolitan areas, it is paramount that traffic planning include such provisions as median strips in new roadways for the placement of tracks, entirely new installations as provided in Toronto and Cleveland, and extensions to present facilities, or the effective use of existing right-of-way, as well as possible combinations of these methods.

Such rapid-transit, traveling a defined course on its rails, provides relief from street and highway hazards. We must recognize its safety as well as its effectiveness. Swarms of free-wheeling vehicles maneuvering for position in traffic cannot be as safe nor as efficient.

Research to improve car equipment is continuous. The builder keeps abreast of latest developments in sources of power, braking, types of construction, building practices, materials, lighting, air-conditioning, ventilation, heating, seating, communication systems, air springing, drives, and new materials, always devising ways and means for their uses where applicable. At the same time we must not lose sight of the important elements of vehicle first cost, operation and maintenance costs, and durability and economical life.

Operators of the equipment play a leading part in keeping cars up to the minute. Living with the vehicles day by day, their experience dictates many advanced features and ideas that are built into later cars. Equipment and accessory manufacturers revise and offer new improved products which the industry adopts and uses in new cars.

Various committees of the American Transit Association and the American Association of Railroads as well as organizations such as the Transit Research Corporation do their part in helping to bring about improvement and economy in rail vehicles. Groups such as the American Institute of Electrical Engineers discuss papers on various subjects which contribute much to these objectives. The foregoing article is, in fact, adapted from one of those papers. The original was presented at an AIEE conference held recently in San Francisco.

Along the Iron Pike

by Joe Easley

SWITCHBACK AND HOUSED-OVER TURNTABLE ON OLD NARROW-GAGE SILVERTON RR. IN CORKSCREW GULCH, COLORADO ROCKIES.

(from rare photo in Josie M. Crum's new book, Three Little Lines)

BRITISH RAILWAYS

NEW CREST USED ON ALL BRITISH RAILWAYS PASSENGER EQUIPMENT.
(British Information Services, N.Y. City)

KELLIE RICHMOND RILEY
DEC. 23, 1878 – MARCH 23, 1948

GM&O CONDUCTOR'S TOMBSTONE AT COLUMBUS, MISS., PICTURES HIS LAST CABOOSE. NEARBY IS SIMILAR STONE FOR SON JOHN, ALSO A GM&O SKIPPER, WHO DIED IN 1949.

GLAMOURIZED CABOOSE. PAINTED SAME COLORS AS RIO GRANDE PASSENGER CARS--YELLOW, BLACK, AND SILVER.

A FEW SHAY GEARED ENGINES ARE STILL RUNNING. MEADOW RIVER RR. NO. 1. BUILT IN 1913, HAULS LUMBER TO A FURNITURE FACTORY AT RAINELLE, W. VA. (from photo by Granville Thomas, 218 E. Vine St., Millville, N.J.)

Wenatchee Daily World

Longest railway bore on our continent, Cascade Tunnel has a huge steel door at each end. The east portal (shown here) is closed whenever a heavy freight train enters the west portal, and a gigantic fan starts cooling the diesel locomotive.

AIR-COOLING our biggest tunnel

GOOD-BYE to electric locomotives on the Great Northern! Steam and diesel power remain, but the Big G's entire fleet of fifteen juice hogs has been put up for sale.

This change ends an era of nearly half a century of electric train operation in the Cascade Mountains of Washington—a 74-mile stretch between Wenatchee and Skykomish. It was brought about last August by the completion of a $650,000 ventilation project in the eight-mile Cascade Tunnel which permits heavy diesel-powered freights to use the tunnel without seriously overheating the engines.

Among the juice hogs retired are two giants, Nos. 5018 and 5019, Class W, the world's largest single-unit all-electric locomotives. Each is a General Electric job boasting 24 wheels and 6000 horsepower.

Basic units in the ventilation project are two six-foot fans installed at Berne, the tunnel's east portal. Powered by 800-hp. electric motors and turning at 1,150 revolutions per minute, the fans force fresh outside air through the bore.

A special control station and power plant has been erected near the east portal to house the fan motors, the electric switch gear, and the control mechanism, as well as a 1,200-hp. stationary diesel for stand-by power.

The east portal has been rebuilt to house a steel drop door, actuated by the operator at the west portal. This prevents the air blast from "short-circuiting," or circulating out the near portal and back to the fans.

When a heavy-tonnage freight train enters the west portal of the 41,152-foot tunnel, at Scenic, the operator there engages the master control. He closes the east portal door and starts a fan which forces about 220,000 cubic feet of air per minute against the oncoming train.

From west to east the continuous rail within the tunnel is on a 1.57 percent grade. The flow of clean air minimizes the piston effect of a diesel-powered train passing through.

Lighter trains will not require assistance from the cooling system, and all trains westbound downgrade can operate efficiently without it. For years, some passenger trains have been diesel-powered through the tunnel.

After a train has passed through in either direction, both fans can be operated to change the air completely. Together they force some 525,000 cubic feet per minute through the long passageway.

The automatic features which come into play after the west-portal operator has engaged the master control include switch gear. This opens the doors and turns off the fans when a train on the upgrade approaches within 3,250 feet of the closed portal. The fans will not function unless the door is closed. A stop signal near the door is provided in the event the door should not open despite its "fail-safe" design.

A train clearing the tunnel automatically closes the door and starts both fans for the air-changing cycle.

Great Northern officials expect that 100 percent dieselization of the electrified zone will save a lot of money. No longer are locomotives changed at Wenatchee and Skykomish. Besides, there a cost for the maintenance of electric locomotives and related facilities. Another operating gain is seen in winter snow removal. Equipment with heavy outrigger blades no longer has to be retracted to pass each trolley pole along the mountainous right-of-way.

When James J. Hill's main line from St. Paul to Seattle was first laid across the Cascades, in 1893, the major climb of Stevens Pass was accomplished through a series of switchbacks. Then in 1900 the building of the first Cascade Tunnel discarded all the switchbacks. The 2.63-mile bore also shortened the distance 9 miles, reduced the maximum grade from 4 to 2.2 percent, and eliminated 2,332 degrees of curvature.

The GN's first step toward electrification in the Cascades came in 1909 when the tunnel was electrified to banish smoke and gas and to improve operating conditions.

The first electrified operation was a three-phase, 6600-volt system with two trolley wires. The rails being were as a third conductor. Locomotives equipped with three-phase induction motors could be operated at two speeds—about 15 miles per hour with passenger trains and light freights, 7½ on heavy freights.

With the opening of the new Cascade Tunnel in 1929, electrified operation was extended west to Skykomish and east to Wenatchee. For a while oil-burning steam locomotives were used in tunnel service. The tunnel, plus a major relocation on the east slope, gave the Great Northern 34 miles of easy, high-speed track, replacing 43 miles of steep and winding mountain line.

This project reduced curvatures, lowered summit elevation 502 feet, and eliminated some previous bores and nearly 40,000 feet of snowsheds. Twenty years later the big tunnel was laid with continuous pressure-welded rail.

The Great Northern, which has gradually been adding diesels to its locomotive fleet, is now completely dieselized west of Minot, N. D. But motive power men are proud of the mighty steam power they still operate east of Minot. They are wondering who, if anyone, will buy the two giant electric locomotives and the 13 lesser ones that passed out of service when the longest railway tunnel in the western hemisphere was virtually air-conditioned.

GREAT NORTHERN

World's largest single-cab electric engine is the last juice hog to pass through the Cascade Tunnel under her own power.

Wenatchee Daily World

DIESEL-ELECTRIC LOCOMOTIVES

Numbers	Builder	Built	Cylinders	Tr. Eff. Of Each	H.P.	Class	Total Wt. Of Each
1 to 10	American Loco.	1950	6—12½x13	61,675	1000	SW-6	246,700
11 to 13	Electro-Motive	1950	12— 8½x10	62,095	1200	SW-7	248,380
14 to 16	G.M. Diesel	1950	12— 8½x10	62,095	1200	SW-7	248,380
17 to 23	Electro-Motive	1951	12— 8½x10	61,810	1200	SW-7	247,240
24 to 28	Baldwin-Lima-Hamilton	1953	6—12¾x15	59,950	1200	SW-8	239,800
75 and 76	Electro-Motive	1939	6— 8½x10	50,683	600	SW-1	202,730
77 to 79	"	1941	6— 8½x10	50,683	600	SW-1	202,730
80 to 83	"	1950	6— 8½x10	49,420	600	SW-1	197,680
98 and 99	"	1951	8— 8½x10	58,125	800	SW-2	232,500
100	"	1938	12— 8½x10	62,355	1200	SW-3	249,420
101	"	1938	8— 8½x10	58,110	1000	SW-4	232,440
102 to 123	"	1939	12— 8½x10	62,690	800	SW-4	250,760
124 to 131	"	1941	12— 8½x10	62,690	800	SW-4	250,760
132 and 133	Baldwin	1941	6—12¾x15	59,945	1000	SW-5	239,780
134 to 136	Electro-Motive	1942	12— 8½x10	62,690	1000	SW-5	250,760
137 and 138	Baldwin	1943	6—12¾x15½	60,275	1000	SW-5	241,000
139 to 144	"	1944	6—12¾x15½	60,275	1000	SW-5	241,000
145 to 150	Electro-Motive	1945	12— 8½x10	62,325	1000	SW-5	249,300
151 to 162	"	1949	12— 8½x10	61,870	1000	SW-5	247,480
163 to 170	"	1950	12— 8½x10	61,965	1000	SW-5	247,860
175 and 176	"	1939	12— 8½x10	53,500	1200	RS-1	214,000
177	"	1940	12— 8½x10	53,500	1200	RS-1	214,000
178	"	1941	12— 8½x10	53,500	1200	RS-1	214,000
179	"	1942	12— 8½x10	53,500	1200	RS-1	214,000
180 and 181	"	1942	12— 8½x10	56,350	1200	RS-3	225,400
182 to 185	American Loco.	1944	6—12½x13	61,250	1000	RS-3	245,000
186 to 195	Electro-Motive	1946	12— 8½x10	54,000	1000	RS-4	216,000
200 to 202	American Loco.	1947	12— 9x10½	58,450	1500	RS-4	233,800
203 to 207	"	1947	12— 9x10½	61,000	1500	RS-4	244,000
208 to 217	"	1949	12— 9x10½	62,095	1500	RS-4	248,380
218 and 219	"	1950	12— 9x10½	61,960	1500	RS-4	247,840
220 to 224	"	1950	12— 9x10½	65,100	1600	RS-5	260,400
225 to 227	"	1950	12— 9x10½	62,435	1600	RS-5	249,740
228 to 232	"	1953	12— 9x10½	62,532	1600	RS-5	250,135

ONE UNIT EACH

500 to 503	"	1945	2(12—8½x10)	53,720	2000	E-7	318,830
504 to 509	"	1945	2(12—8½x10)	54,937	2000	E-7	326,040
510 and 511	"	1947	2(12—8½x10)	54,442	2000	E-7	323,100
512	"	1947	2(12—8½x10)	55,871	2000	E-7	331,580
550 to 564	"	1952	16— 8½x10	85,875	2000	SD-7	343,500
565 to 572	"	1953	16— 8½x10	85,930	2000	SD-7	343,720
573 to 578	"	1954	16— 8½x10	85,740	1500	SD-9	342,960
579 to 583	"	1956	16— 8½x10	86,160	1750	GP-7	344,640
600 to 605	"	1950	16— 8½x10	62,605	1750	GP-7	250,420
606 to 622	"	1950	16— 8½x10	61,815	1500	GP-7	247,260
623 to 649	"	1951	16— 8½x10	61,815	1500	GP-7	247,260
650 to 652	"	1951	16— 8½x10	62,605	1500	GP-7	250,420
653 to 655	"	1953	16— 8½x10	61,705	1500	GP-7	246,820
656 and 657	"	1954	16— 8½x10	61,620	1500	GP-9	246,475
658	"	1954	16— 8½x10	61,735	1500	GP-9	246,940
659	"	1954	16— 8½x10	61,620	1500	GP-9	246,475
660	"	1954	16— 8½x10	61,465	1500	GP-9	245,860
661 to 670	"	1954	16— 8½x10	61,620	1500	GP-9	246,475
671	"	1954	16— 8½x10	61,500	1500	GP-9	246,000
672 and 673	"	1954	16— 8½x10	61,620	1500	GP-9	246,475
674	"	1954	16— 8½x10	61,775	1500	GP-9	247,100
675 to 678	"	1954	16— 8½x10	61,620	1500	GP-9	246,475
679	"	1954	16— 8½x10	64,000	1500	GP-9	256,000
680	"	1954	16— 8½x10	63,960	1750	GP-9	255,840
681 to 687	"	1956	16— 8½x10	62,160	1750	GP-9	248,640
700 to 703	"	1955	16— 8½x10	63,210	1750	GP-9	252,840
704 to 711	"	1956	16— 8½x10	62,970	1750	GP-9	251,880

2 UNITS EACH

247 and 248	Electro-Motive	1945	16— 8½x10	116,270	2700	FTA	465,080
249	"	1941-'45	16— 8½x10	113,605	2700	FTA	454,420
250 and 251	"	1941	16— 8½x10	114,595	2700	FTA, FTB	458,380
253	"	1941	16— 8½x10	113,000	2700	FTA, FTB	452,000
255	"	1941-'45	16— 8½x10	113,000	2700	FTA, FTB	452,000
256 to 258	"	1945	16— 8½x10	113,000	2700	FTA, FTB	452,000
259	"	1947	16— 8½x10	117,265	3000	F-3A	469,060
260 and 261	"	1947	16— 8½x10	123,875	3000	P3-7A, P3-7B	495,500
262 and 263	"	1947	16— 8½x10	115,250	3000	P3-7A, P3-7B	461,000
266 and 267	"	1948	16— 8½x10	123,875	3000	P3-7A, P3-7B	495,500
268	"	1950	16— 8½x10	126,735	3000	F-3A	506,940
269 and 270	"	1950	16— 8½x10	124,335	3000	P3-7A, P3-7B	497,340
271	"	1952	16— 8½x10	120,945	3000	F3-7A	483,780
273 and 274	"	1950	16— 8½x10	121,400	3000	F3-7A	485,600
275-A (only)	"	1946	16— 8½x10	63,525	1500	P3-7A	254,100
276	American Loco.	1950	12— 9x10½	125,220	3200	AFA	500,880
277	"	1950	12— 9x10½	128,900	3200	AFA	515,600
278 and 279	"	1951	12— 9x10½	128,800	3200	AFA, AFB	515,200
280 and 281	Electro-Motive	1952	16— 8½x10	125,870	3000	P3-7A, P3-7B	503,480

3 UNITS EACH

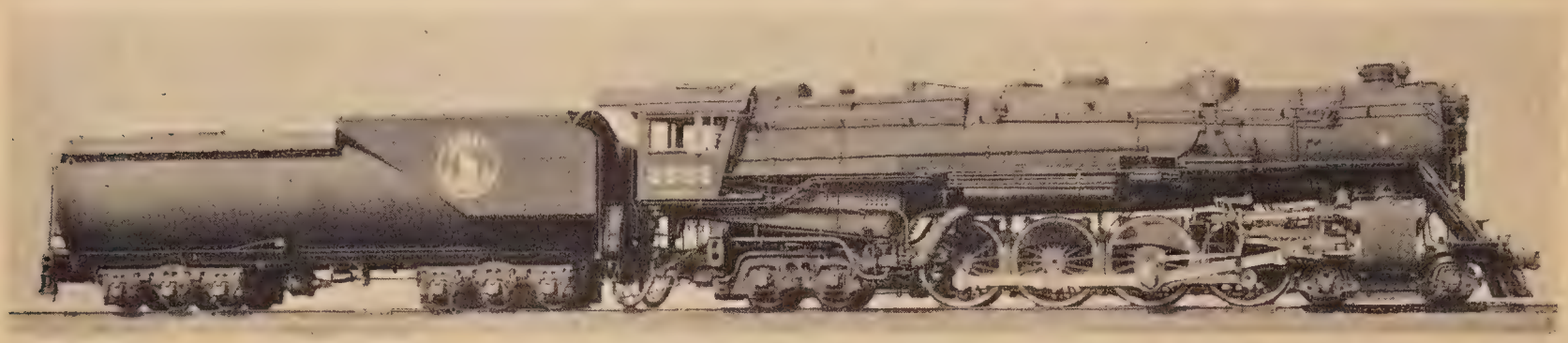
307 to 309	"	1950	16— 8½x10	181,825	4500	F3-7A, F3-7B	727,300
310	American Loco.	1950	12— 9x10½	187,305	4800	AFA, AFB	749,220
311 to 317	Electro-Motive	1952	16— 8½x10	185,170	4500	F3-7A, F3-7B	740,680
350	"	1947	16— 8½x10	184,935	4500	P3-7A, P3-7B	739,740
351 to 358	"	1947	16— 8½x10	185,400	4500	P3-7A, P3-7B	741,600
359	"	1946-'50	16— 8½x10	187,460	4500	P3-7A, P3-7B	749,840
360	"	1947-'50	16— 8½x10	189,155	4500	P3-7A, P3-7B	756,620
361	"	1947-'50	16— 8½x10	189,915	4500	P3-7A, P3-7B	759,660
362	"	1948-'50	16— 8½x10	187,710	4500	P3-7A, P3-7B	750,840
363	"	1950	16— 8½x10	187,765	4500	P3-7A, P3-7B	751,060
364 and 365	"	1950	16— 8½x10	187,925	4500	P3-7A, P3-7B	751,700

Great Northern Railway

Four-unit diesel No. 410, an orange and green comet with a long tail of freight cars, makes a vivid picture as she crosses Two Medicine Bridge, the highest of all the Great Northern trestles, approaching the Glacier National Park in Montana.

4 UNITS EACH

400	"	1943	16— 8½x10	231,412	5400	FTA, FTB	925,650
401	"	1941-'45	16— 8½x10	229,245	5400	FTA, FTB	916,980
402	"	1944	16— 8½x10	231,412	5400	FTA, FTB	925,650
403	"	1945	16— 8½x10	229,245	5400	FTA, FTB	916,980
404	"	1944	16— 8½x10	231,412	5400	FTA, FTB	925,650
405	"	1945	16— 8½x10	229,245	5400	FTA, FTB	916,980
406 to 416 (Even Numbers)	"	1944	16— 8½x10	231,412	5400	FTA, FTB	925,650
418	Electro-Motive	1945	16— 8½x10	231,412	5400	FTA, FTB	925,650
420 to 424 (Even Numbers)	"	1944	16— 8½x10	231,412	5400	FTA, FTB	925,650
426 and 428	"	1945	16— 8½x10	231,412	5400	FTA, FTB	925,650
430 to 438 (Even Numbers)	"	1948	16— 8½x10	229,385	5400	F3-7A, F3-7B	917,540
444 and 446	"	1949	16— 8½x10	234,425	6000	F3-7A, F3-7B	937,700
448 to 456 (Even Numbers)	"	1950	16— 8½x10	231,155	6000	F3-7A, F3-7B	924,620
458	"	1948-'52	16— 8½x10	230,340	6000	F3-7A, F3-7B	921,360
460	"	1944-'52	16— 8½x10	247,400	6000	F3-7A, F3-7B	989,600
462 and 464	"	1953	16— 8½x10	245,825	6000	F3-7A, F3-7B	983,300
466 and 468	"	1953	16— 8½x10	246,165	6000	F3-7A, F3-7B	984,660
470	"	1947-'54	16— 8½x10	238,825	6500	F3-7A, F9-B	955,300
472	"	1948-'54	16— 8½x10	240,040	6500	F3-7A, F9-B	960,160
474	"	1949-'54	16— 8½x10	240,930	6500	F3-7A, F9-B	963,720



No. 2552, an oil-burner with a Belpaire boiler, one of six jobs Baldwin built in 1929 for "Big G" passenger service.

STEAM LOCOMOTIVES

Numbers	Type	Built	Tractive Effort	Weight on Drivers	Weight of Locomotive	Driv.	Cyls.
810, 811	0-8-0	1918	61,430	253,000	253,000	55	26x28
813 to 815	0-8-0	1918	61,430	245,640	245,640	55	26x28
816	0-8-0	1918	61,430	248,540	248,540	55	26x28
817	0-8-0	1918	61,430	250,520	250,520	55	26x28
818, 819	0-8-0	1918	61,430	253,000	253,000	55	26x28
820, 821	0-8-0	1918	61,430	245,640	245,640	55	26x28
822	0-8-0	1918	61,430	253,000	253,000	55	26x28
823 to 828	0-8-0	1918	61,430	245,640	245,640	55	26x28
829 to 831	0-8-0	1918	61,430	253,000	253,000	55	26x28
832 to 835	0-8-0	1919	61,430	245,640	245,640	55	26x28
836 to 841	0-8-0	1919	61,430	251,800	251,800	55	26x28
842	0-8-0	1919	61,430	245,640	245,640	55	26x28
843, 845	0-8-0	1919	61,430	251,800	251,800	55	26x28
846, to 848	0-8-0	1919	61,430	245,640	245,640	55	26x28
849	0-8-0	1919	61,430	251,800	251,800	55	26x28
2001, 2002, 2005	2-8-8-0	1941	104,236	537,880	572,375	63	28x32
2012, 2013, 2016	2-8-8-0	1941	104,236	537,880	572,375	63	28x32
2018, 2021, 2023	2-8-8-0	1940	104,236	537,880	572,375	63	28x32
3000	2-8-2	1911	71,083	236,000	319,960	63	28x32
3012	2-8-2	1911	71,083	236,000	315,360	63	28x32
3044, 3045, 3050, 3059	2-8-2	1913	71,083	236,000	315,360	63	28x32
3101, 3112, 3117, 3119, 3129, 3138, 3139	2-8-2	1917	71,083	236,000	315,360	63	28x32
3135, 3144	2-8-2	1917	71,083	236,000	319,960	63	28x32
3212, 3213, 3216, 3218, 3219, 3220, 3222, 3224, 3226, 3229, 3230, 3236, 3243, 3244, 3245, 3247, 3250, 3251, 3254	2-8-2	1920	71,083	254,000	334,000	63	28x32
3354	2-8-2	1925	67,698	260,000	334,800	63	28x32
3361, 3364, 3370	2-8-2	1926	67,698	260,000	334,800	63	28x32
3375	2-8-2	1929	75,900	325,000	425,440	63	28x32
3376 to 3378	2-8-2	1930	75,900	325,000	425,440	69	28x32
3379	2-8-2	1930	75,900	325,000	421,440	69	28x32
3380 to 3390	2-8-2	1930	75,900	325,000	425,440	69	28x32
3391, 3392, 3394	2-8-2	1931	75,990	325,000	425,440	69	28x32
3395	2-8-2	1934	75,990	325,000	425,440	69	28x32
3393, 3396, to 3399	2-8-2	1932	75,900	325,000	425,440	69	28x32
2505, 2507, 2510, 2511, 2513, 2514, 2520, 2521, 2523, 2524, 2525	4-8-2	1923	57,580	265,000	388,700	73	29x28
2122, 2127, 2128, 2177, 2178, 2181	4-8-2	1923	76,251	356,000	438,000	63	29x32
2182, 2186, 2188, 2189	2-10-2	1914	76,251	314,000	398,160	63	29x32
2044, 2046, 2047, 2051, 2053	2-8-8-2	1929	142,055	592,000	686,440	63	26x28x32
2054, to 2056, 2059	2-8-8-2	1930	142,055	592,000	686,440	63	26x28x32
2550, to 2552, 2554	4-8-4	1929	64,466	283,000	493,780	73	28x30
2576, 2578 to 2580, 2583, 2584, 2586	4-8-4	1930	58,305	257,000	438,120	80	20x29

GREAT NORTHERN MOTIVE POWER: NOTES AND SUMMARIES

All steam locomotives were built by Baldwin, except 2001 through 2023, 3354 through 3523, and 2051 through 2059, which GN built in its own shops. In 1928 GN rebuilt the following: 2177, 2178, 2181, 2182, 2186, 2188, and 2189.

Total number of steam locomotives in service, 151. Total tractive effort, 11,225,658 pounds. Total weight on drivers, 46,357,840 pounds. Total locomotive weight, 57,329,695 pounds.

Classes: C-1, 810 to 849. N-3, 2001 to 2023. O-1, 3000 to 3144. O-4, 3212 to 3254. O-6, 3354 to 3370. O-8, 3375 to 3399. P-2, 2505 to 2525. Q-1, 2122 to 2128. Q-2, 2177 to 2189. R-2, 2044 to 2059. S-1, 2550 to 2554. S-2, 2576 to 2586.

In addition to power shown on the roster, GN has six locomotives with steam pipes and main rods removed — Q1: 2030, 2031, 2033, R1: 2101, 2107, and 2120. These are used as stationery boilers for steaming ore.

Total number of diesel-electric locomotives, 407. Total number of diesel-electric units, 607. Total tractive effort of diesel-electrics, 37,420,502 pounds. Total weight of diesel-electrics, 151,054,255 pounds.

(Above) Nos. 2047, 3357. (Below) Changine crews. Top and bottom shots made by H. W. Pontin, Rail Photo Service.

INFORMATION

Strings of continuous welded rail, arrive at Monee, Ill. for installation on four miles of Illinois Central high-speed track. "Ribbon rails," which adapt easily to track curvature, are switched to the west side of the right-of-way for unloading.

BOOTH

ASK BARBARA: Railroad questions are answered here every issue by our research expert—as many as space permits. Top priority is given to subjects that seem to be of wide general interest. Address Miss Barbara Kreimer, *Railroad Magazine*, 205 E. 42nd Street, New York 17, N. Y. No replies will be sent by mail.

1

Question: (a) *What are the advantages of continuous welded rail?* (b) *Does the Illinois Central have any of it on its high-speed track?*

Answer: (a) According to G. M. O'Rourk, the IC's assistant engineer for maintenance of way, 40 percent of all track labor is spent in the vicinity of the joints on the regular 39-foot rail.

"In spite of the many improvements made in joints," he says, "they are still not as strong as welded rail."

The usual length of welded rail is 1,440 feet. Using such steel cuts the cost of assembling and maintaining rail points. There are no angle bars, bolts, nutlocks, or copper bonds to install and repair. The rail's riding quality is improved also, through the elimination of battered ends and churning joints. And the familiar click of flanged wheels passing over rail joints is no longer heard.

(b) Yes, 4 miles were installed a few months ago on high-speed track between Monee and Peotone, Ill. Prior to that, the only such IC installations were in tunnels, on bridges, along station platforms, and on the South Chicago suburban branch.

2 *It is commonly known that railroads get more revenue from freight than from passengers, but how much more?*

About 11½ times as much.

3 *Why were simple steam engines more widely used than compounds?*

Mainly because the invention of the superheater provided locomotives with about 30 percent more hauling capacity. Besides, fuel consumption was cut 20 to 25 percent, and water 25 to 30 percent. (As a rule, Mallets need a lot of both.) The more direct, lighter valve gear and fewer cylinders also reduced maintenance costs.

Mallet compound engines are powerful and well suited for drag freight and pusher service, but as they grew larger the already huge back pressure from the low-pressure cylinders increased. Power output was unbalanced at any but the lowest speeds, resulting in loss of horsepower and heavy pounding when the engine drifted.

These facts were borne out when the Norfolk & Western, America's greatest user of the compound Mallet, added simple articulated engines to their fleet for fast freight and heavy passenger runs.

Generally speaking, compounding steam is a fundamentally sound idea, since an engine using steam will haul more tonnage on less fuel. But other factors may render it less practical.

TO ALL BRAVES:
The happiest hunting grounds in America are reached directly by the
Atchison, Topeka & Santa Fe
RAILROAD.
In Kansas, Colorado, the Indian Territory, New Mexico, Arizona, Western Texas and Mexico game of all kinds is found. If you don't believe it, ask
W. F. WHITE, G. P. & T. Ag't, TOPEKA, KANSAS.
EDWARD HAREN, W. P. Ag't, TOPEKA, KANSAS.
CHIEF WA-WA SPEAKS.

The Santa Fe's first advertisement, dated 1878, preceded modern ads of streamlined *Chief* and *Super Chief*.

4 *Which was the first Western railroad built without Government aid?*

James J. Hill's Great Northern, organized and completed between 1887 and 1893. (See current locomotive roster on page 34)

5 *On entering a large passenger terminal, how does an engineer know which track to use?*

Sometimes he is guided by ground, or dwarf, signals which lead the train directly to the platform track. If switches are located past the final signal, he depends upon the interlocking tower to give him a clear track.

6 *How many tons of steel are used in building:* (a) *a 50-foot boxcar and* (b) *a gondola or hopper car of 70-ton capacity?*

(a) Twenty-four. (b) Twenty-seven.

7 *What is a ballast plow?*

A new device made of four sets of V-shaped scraper blades, mounted on a sled-like frame, which cleans ballast and removes weeds along the right-of-way. A bulldozer inserts it under the track by jacking up a short section of rails and ties.

8 (a) *What were the original numbers of Westinghouse Electric engines E-10 and E-18 on the Milwaukee Road?* (b) *Are they still in service?*

(a) 10300 and 10308 respectively. (b) E-18, yes. E-10 has been retired.

9 *How are locomotives washed?*

The most modern way is by an automatic device similar to the washer your garage man uses—only on a much more elaborate scale.

Water and chemicals from high pressure pumps are piped to a spray stand which forms a tremendous tent-like framework around the washing area. The engine moves slowly through the spray, which alternates from chemicals to water, removing all road film and grease until she emerges clean and shining in less than an hour.

The operation is controlled by one man via push button from a pumphouse. About 1,000 gallons of water are used for one multi-unit diesel locomotive. Some terminals have equipment that washes locomotives on either of two tracks. But in some places the old-fashioned hose is still used.

10 *Are taxpayers' funds used to finance the Railroad Retirement Board?*

No, railroads and their employes supply the money.

11 (a) *When was the first freight-car seal used?* (b) *What did it look like?* (c) *Are modern seals uniform in appearance?*

(a) About 1884. (b) The original form consisted of a lead disk with two holes to hold a piece of twisted wire which was compressed by a die hard enough to leave a sealmark. This mark had to be defaced, or the wire cut, before the door could be opened. (c) No, there's a wide variation. Wires are fastened in many different shapes. Most disks are made of lead; others are glass, tin, or iron.

12 *Has there been any appreciable increase in speed and freight tonnage on American railroads in the past 25 years?*

And how! The average speed has increased 41 percent and tonnage 71 percent.

13 *How old is the Bessemer & Lake Erie?*

First of the companies which went to form the B&LE was chartered in Pennsylvania as the Bear Creek RR. on March 20, 1865. Two years later the name was changed to Shenango & Allegheny. The first 20 miles, from Pardoe to Shenango, was opened for service in October, 1869.

14 *What is the meaning of two white flags displayed on a locomotive running forward?*

That it is an extra train.

15 *If I want a certain back issue of* Railroad *and your company's supply is exhausted, where can I buy it?*

Place a request in our *Switch List*, or try one of the following dealers in railroadiana: Arnold Joseph, 212 Tratman Ave., New York 61, N.Y.; Grahame H. Hardy, Carson City, Nev.; Owen Davies, 1214 LaSalle St., Chicago.

16 *What is an interline haul?*

A freight haul involving two or more railroads.

17 *What is the fastest train running time between New York and Chicago?*

About 15½ hours. Promoters of the Chicago-New York Air Line Electric RR. (see Dec. '56 *Railroad*) promised to cut this time to ten hours, but their pipe dream faded after only a few miles of track had been laid.

18 (a) *Are any setam locomotives now in production for use in North America?* (b) *Are any being rebuilt?* (c) *Does the Nickel Plate have any steam engines now in service?*

(a) No, and no future production is contemplated. (b) A few. (c) Yes, Berkshire types haul freight on the Buffalo-Chicago main line, which handles 46 percent of the Nickel Plate's gross ton-miles.

Norfolk & Western's No. 606, fast passenger type, is given a shower between runs.

Bryan Beard, Norfolk & Western master photographer

Aaron G. Fryer, 6001 Drexel Rd., Philadelphia, Pa.

There are many ways of "washing down an elephant." (Above): Reading's No. 2113 (4-8-4) on the pit in the engine terminal at Gordon, Pa. (Lower left): By remote control through centrifugal pressure from the pump house at Central of Georgia's Columbus installation. (Right): Employe uses a little elbow grease to shine up Piedmont & Northern emblem.

Central of Georgia Magazine

Thomas G. Lynch, Piedmont & Northern Railway

Typical of Southwestern architecture of the era is the Woodland, Calif., station of the Sacramento & Woodland, a Sacramento Northern branch completed in 1912.

19 *I see that the Central of Georgia has a new kind of machine for unloading ties. Tell me about it.*

This is one of many new track devices to ease the work of gandy dancers. Six modified flatcars are loaded with ties and the seventh is equipped with a hydraulic unloader. The machine moves a continuous chain that travels down each car, snags a tie at a time, and pushes it through an 18-inch opening at the bottom. Speeds can be regulated and ties unloaded from either side. Each car holds 400 ties that can be laid on the ground in the right position within 45 minutes.

20 *To what extent has the motive power of America's railroads been dieselized?*

About 90 percent.

21 *Who was Col. John Stevens?*

Known as the Father of American Railroads, he was a wealthy lawyer and mechanical engineer, given to experimenting. He obtained the first railway charter in the U.S. and built the first locomotive to run on rails, but *not* the first locomotive model. (See page 56.) Among his many inventions is the first railroad spike.

His son Edwin built Stevens Institute of Technology on his Hoboken, N. J. estate in 1871 to fulfill the old man's dream of supplying the country with engineering talent.

22 *Can you recommend a practical book on model railroading?*

Many good ones have been published, the latest being *How to Build Model Railroads and Equipment,* by Barton K. Davis, Crown Publishers, Inc., 149 4th Ave., New York, $3.95.

23 *Why are some yard switches* not *equipped with guard rails? I thought guard rails were needed to guide wheels.*

Switches not so equipped are of the self-guarded frog type, with a high flange or guard on either side of the frog proper. These flanges form a smooth contact with tread rims of passing wheels and deflect them into alignment without shock. They fall into three categories: (a) Those cast intrigally with the frog, (b) elevated flange rails made part of the frog, and (c) guards held rigid by adjustable members.

Self-guarded frogs reduce maintenance costs and are used in yards and terminals where operating speeds are moderate.

24 *When did the first all automatic car-retarder switching system go into operation?*

July 6, 1950, at the Canadian Pacific's St. Luc Yard, Montreal.

25 *Could I have a history of the Sacramento Northern?*

Glad to give you a rundown on this 51-year old line which came to be America's longest third-rail interurban. Originally known as the Northern Electric, it went into operation as a passenger line in the heyday of interurbans. Rivalries between various California companies sparked expansion, and by 1907 the Northern's tracks ran south from Chico to Sacramento, with several east-west connections.

In 1918 it became known as the Sacramento Northern, and in '21 the Western Pacific bought it. By that time the automobile was playing havoc with local passenger traffic, which dwindled to the point where the interurban solicited freight from the rich Sacramento Valley.

The present SN, now consolidated with the San Francisco-Sacramento (both still part of WP) has been a freight-only carrier since June, 1941. We are happy to add it is a busy Class I road. (Car shown in photo is No. 129.)

26 *Where was America's first interstate railroad bridge built?*

Over the Potomac River to carry Baltimore & Ohio tracks and link Maryland and Virginia at Harper's Ferry (now in West Virginia). The span was completed in 1836. A colored photo of this bridge appeared on *Railroad's* Dec. '55 front cover.

27 *Are any General Electric U9b or U9c locomotives used in North America?*

No. GE's so-called Universal line is designed for export only.

28 *Does the "AB" brake permit faster application and releases than the old K-2 triple?*

Yes, because it has an operating valve which insures faster and better controlled brake applications. For example, on a mile-and-a-half-long train, only eight seconds are consumed from the time the engineer opens his brake valve for normal application until the brake sets on the last car.

Release of the brakes is speeded as the air required to restore pressure in the train-line no longer comes from the engine directly. Instead, each car carries a double reservoir. One part stores air for service applications, the other for emergency.

On the "AB," air from the emergency tank is diverted to raise train-line pressure the instant the engine brake valve is closed. This speeds up the process of setting and pumping off brakes and prevents individual car brakes from sticking.

29 *Which was the first lightweight low-gravity train placed on a regular run on this continent?*

Rock Island's *Jet Rocket,* which made its initial run between Peoria and Chicago last February.

30 *Was a locomotive ever named for an Indian chief?*

Yes, a few. For example the six-wheeled *Powhatan,* built by Wm. Norris of Philadelphia and put in service in 1838 on the Crown Point RR., now part of the Norfolk & Western.

Incidentally, the N&W's most famous passenger train, the *Pocahontas,* was named for chief Powhatan's daughter. It is one of the few trains with a feminine name.

31 (a) *How many roads use two-way radio communications for trains, yards and terminals?* (b) *How many engines and cabooses are so equipped?*

(a) Over 90. (b) About 13,000.

32 (a) *How does a Mallet shift from simple to compound?* (b) *Is steam from all cylinders exhausted through one stack?*

(a) The changeover is accomplished by an intercepting valve. In starting, steam is sent at equalized pressure to all four cylinders. After the driving wheels have made a few revolutions, the exhaust from the high-pressure cylinders motivates the intercepting valve, which arranges the ports for compound operation. This action can be controlled manually by the engineer through the emergency exhaust valve.

(b) Steam from both high- and low-pressure cylinders is usually exhausted into one stack, which is sometimes a two-unit affair, comprising two lift (petticoat) pipes in one casting.

33 *Which was the oldest line to become part of New York Central system?*

The Mohawk & Hudson, which ran between Schenectady and Albany, N.Y. The building of this road was started in the summer of 1830 when Stephen

An electronically-controlled icing machine in operation on the ice dock of the Santa Fe's Calwa, Calif. (Fresno) icing station.

Santa Fe Railway

Developed by three New York Central employes, this new machine strings three miles of wire an hour on the road's Erie

van Rensselaer turned the first shovelful of earth with a silver spade.

34 *Which road operates the most extensive TV installation?*

The Pennsy, at its Pennsylvania Station in New York. It uses 100 cameras and 96 receivers for transmitting information regarding available space on sleeping and parlor cars, as well as coaches. This is the first audio-video installation in which the customer participates along with the ticket seller and space distributor.

35 *Where does Hollywood get the oldtime locos shown in Westerns?*

Some film companies own such equipment; others borrow it. For instance, Walt Disney borrowed the engines used to impersonate the *General* and the *Texas,* in *The Great Locomotive Chase* from the Baltimore & Ohio museum at Baltimore, Md.

36 *When was ground broken for construction of the Northern Pacific?*

On February 15, 1870, near Carlton, Minn. The first rail was laid August 14.

37 *What is dual fuel?*

A new low-cost fuel for diesel-electric locomotives. It is used after the engine has reached normal operating temperatures. The switch from normal (high-grade) fuel is made when the throttle is advanced from the fourth to the fifth notch. At higher operating speeds, the heavy (or cheaper) fuel takes over. When speed is dropped back, an automatic changeover takes place to regular distillate fuel.

The residual fuel was developed in Chesapeake & Ohio laboratories and tested successfully in heavy freight service. Eventually it will be used on all C&O heavy road diesels, at an estimated saving of two cents a gallon.

38 *I've noticed these markings on certain Lackawanna cars:* (a) *a white center rib on a hopper and* (b) *yellow journal lids. What do they mean?*

(a) Indicates a center partition for shipping two sizes or classes of coal, such as barley or pea. (b) Indicates an experimental type of journal-box lubricators underneath the lid.

39 *Tell me about the Boston & Albany's engine* Berkshire.

Built by the Rhode Island Locomotive Works in 1869, she was originally named the *Cochituate,* No. 51. In 1903 she was rebuilt as a plush inspection engine, with club-car body mounted over the boiler, and renamed the *Berkshire.* She ran over the entire New York Central system. In her palmy days, when not otherwise in use, she would take the superintendent's wife from Newton, Mass. to Boston and back.

Rebuilt again in 1923, she was used for ICC inspections, usually hauling one private car in addition to salon guests. Her fancy career ended on the scrap pile in 1927.

40 (a) *Print a list of all locomotive rosters* Railroad *has ever published.* (b) *Where can I get a New York Central steam roster?*

New York Central Railroad

Division where CTC is being installed.

(a) Our March '55 and June '55 issues carried such a list, in two parts, complete till that time. (b) Dec. '55 issue.

41 *What keeps underground feed wires from being short-circuited by moisture?*

Underground feed cables or jumper connections for third rails at grade crossings are encased in weatherproof cable housings. These, in turn, are placed in tile-lined conduits filled with an insulating compound, or embedded in concrete.

42 *Recently, I saw passing through Lutherville, Md., a Pennsy passenger train including two Atlantic Coast Lines cars and a Chicago & Eastern Illinois car. How come?*

It is not unusual for the Pennsy to carry ACL cars on a Florida-bound train. Some RF&P, SAL, and FEC cars also run between New York and the South. The C&EI car might have been a Pullman sleeper running temporarily on the Pennsy. Many southbound trains originating in New York or Chicago include cars from various roads.

43 *How did the early trains run at night before locomotive headlights were invented?*

They didn't. In those days the railroads were very short and operated only in the daytime. But when the South Carolina RR. reached the unprecedented length of 100 miles, Horatio Allen, its chief engineer, realized that some means must be provided to allow an engineer to see the track ahead at night.

He experimented with wagon lanterns; they were too dim. Then he had a platform car placed ahead of the locomotive to accommodate a huge fire of pine knots surrounded by sand. This light was bright enough to reveal the track ahead.

44 *How much railroad fare is paid by Lucius Beebe and Charles Clegg when they ride in their fabulous private car* Virginia City?

The same as that paid by any private railroad-car owner. The roads charge the price of 18 first-class tickets between points for coupling a private chariot onto a train, plus $40 for parking at a siding, and another sum for necessary switching service.

45 *Are all Espee named passenger trains now pulled solely by diesels?*

All but three—*The San Joaquin Daylight, The West Coast,* and *The Owl. The Owl,* an overnight train operating between San Francisco and Los Angeles, uses steam power between Oakland and Fresno. *The San Joaquin Daylight,* San Francisco-Los Angeles, San Joaquin Valley route, is powered by steam between Bakersfield and Oakland. And *The West Coast,* linking Sacramento with Los Angeles, uses steam between Bakersfield and Sacramento.

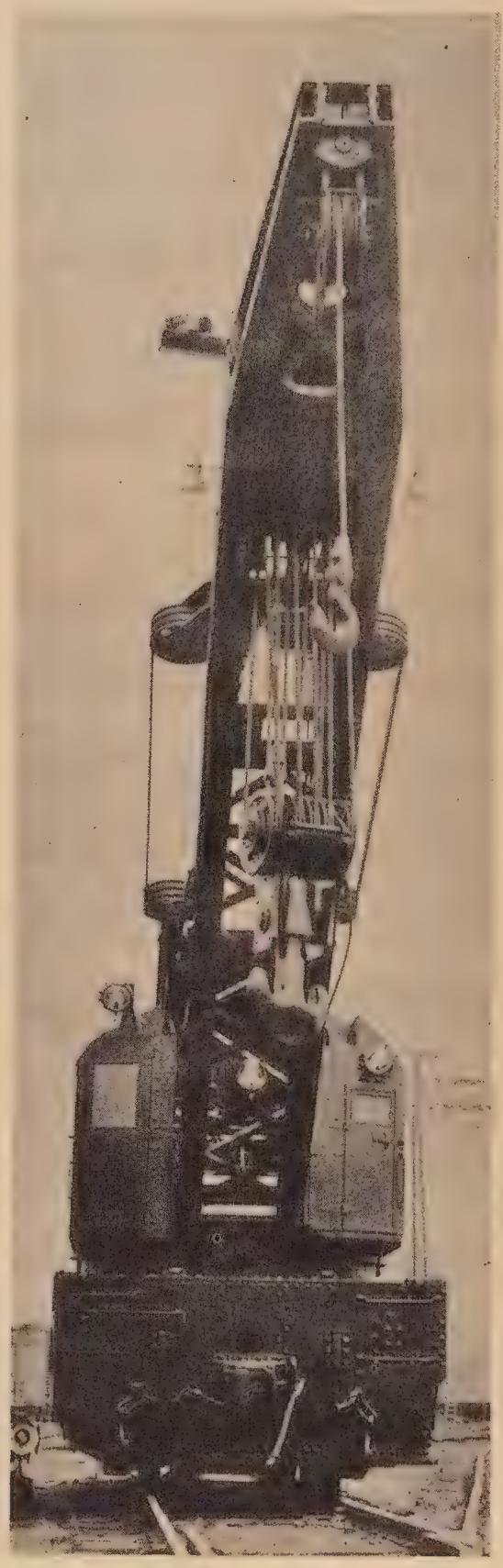
The SP is now more than 90 percent dieselized. By the end of '58 it will probably be 100 percent.

46 *What is* commodity rate?

A special freight rate (usually lower than the class rate for a given item), which effects a specific type of merchandise to be shipped between two designated terminals.

47 *According to the* Official Guide, *the Roberval & Saguenay in Canada runs train No. 2 between Arvida and Bagotville, Que., operating mixed in an eastward direction only. How are passengers cars returned to Arvida?*

This is a good question about an odd situation. The R&S suspended passenger service years ago, but during the tourist season it provides a connection with the Canadian National at Arvida to carry through passengers to Port Alfred and Bagotville. The coach is returned dead to Arvida by freight train.

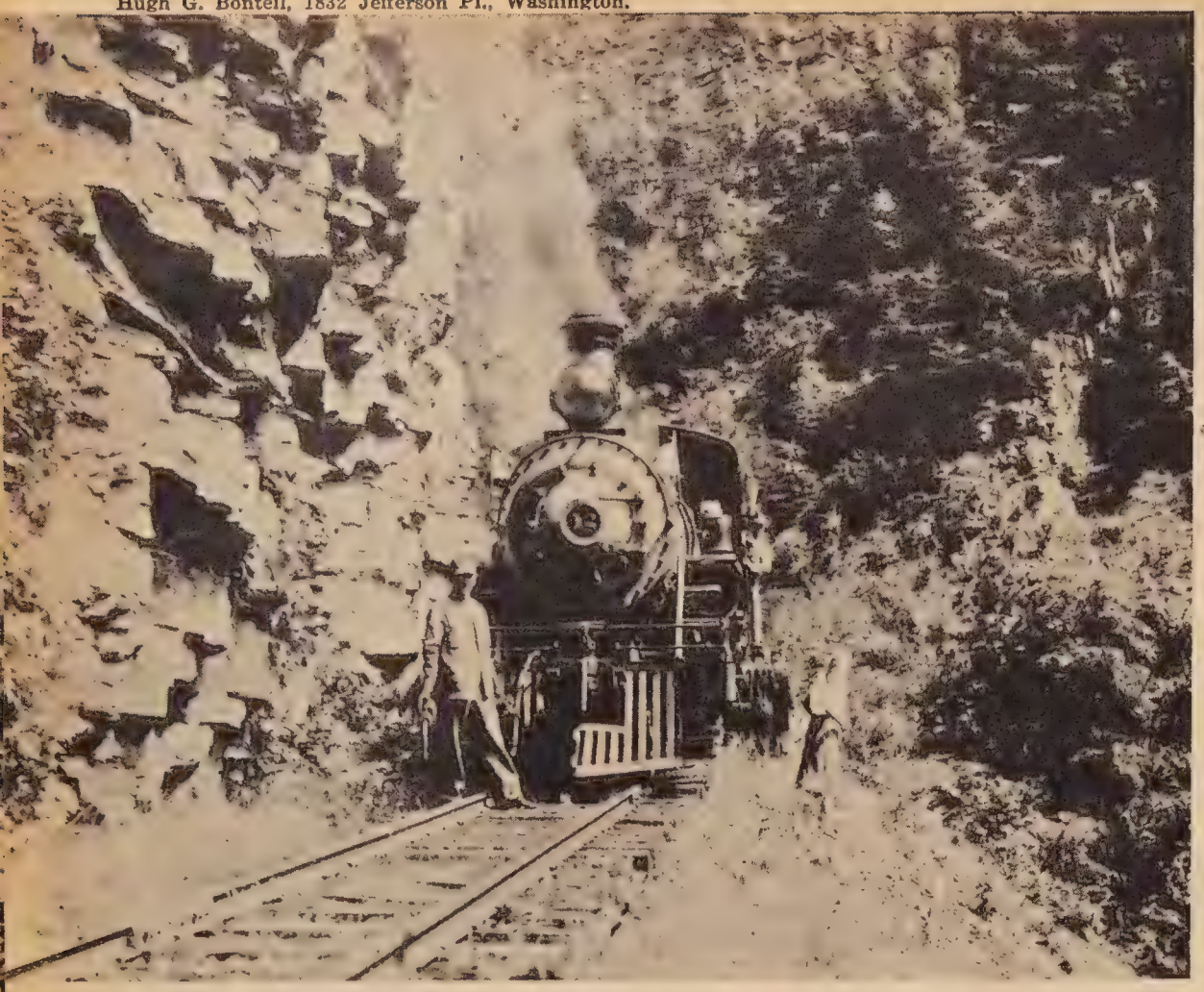


New Haven Railroad

The big hook. Head-on view of the New Haven's latest type wrecking crane.

Hugh G. Bontell, 1832 Jefferson Pl., Washington.

B. Triplett, 36 Uhler Ave., Akron, Ohio



Scenes along the ET&WNC: (Left) Engine No. 12 (4-6-0), with an excursion train, stops at Pardee Point in the Doe River Gorge. (Right) Built at one of the road's highest points, this bridge connects tunnels blasted through Blue Ridge Mountains.

48 *How about a brief history of the East Tennessee & Western North Carolina narrow-gage?*

This little pike with the big name (and its connecting extension, the Linville River Ry.) was dear to the hearts of railfans. The ET&WNC, which first saw the light of day in 1882, had 34 miles of track, with bridges and tunnels, built over and through steep slopes of the Blue Ridge Mountains.

The Linville River was one of the highest railroads east of the Rockies. It boasted nifty equipment and a scenic trip between Johnson City, Tenn., and Cranberry, N.C., that attracted fans from all over the country.

The end came in 1941 from a combination of misfortunes—a washout on the Linville and the imminence of war. A wealthy Mexican took a fancy to the elegant rolling stock and shipped it south of the border.

49 *What is the oldest complete and operable locomotive in the U.S.*

The *John Bull,* built in England in 1831 by Robert Stephenson & Co. and placed in service at Bordentown, N.J. on the Camden & Amboy (now part of the Pennsy). She is on display in the Smithsonian Institution.

50 *Does a modern air brake have such a device as a lap valve?*

You probably mean the lap positions of the engineer's automatic and independent brake valves for stopping his train and locomotive, respectively. When the air-brake handle of the former is placed in lap position, following a regular train-stopping operation, the brakes will hold until released. Lap position on the independent valve holds the locomotive brakes applied in such a position.

51 *What was meant by "compromise" cars used for some of the Pennsy's freight equipment after the Civil War?*

These were built by the Star Union, a fast freight line, which handled through traffic routed over the Pennsy and its connecting roads. Since many of these connections used gages different from the 4 feet 9 inches of the main line, SU cars were equipped with wide wheel flanges and came to be known as "compromise" cars.

52 *When were fluorescent lights first used on passenger trains?*

In 1938 the New York Central made an initial installation, but the first all-fluorescently lighted train was the Burlington's streamliner, *General Pershing,* placed in service between St. Louis and Kansas City on April 30, 1939.

53 (a) *What are radio-active boxcars?* (b) *Are there any in service?*

(a) Cars designed to include built-in radio-active units which will irradiate the contents. For instance, this system will keep potatoes from sprouting, prolong the storage life of perishables, and destroy fruit and grain pests. (b) None have been built yet, but plans call for a few of them on the rails before the end of next year.

54 *What is molygrease?*

A lubricant that is widely used in railway equipment.

55 *Did the Pennsy ever build Camelback engines?*

Yes, three in the shops at Juniata, Pa., in 1899, to compete with Reading speedsters. They were numbered 698, 700, and 820 and designated as E-1

Class Atlantic, with 20½ x 26-inch cylinders, 80-inch drivers, and a 205-pound boiler pressure. The fireboxes were a combination Belpaire and Wooten design.

These Camelbacks eventually went over to the Long Island (renumbered 198, 199, 200), where they served until they were scrapped in 1912.

56 *What were "grasshoppers?"*

Small steam locomotives with vertical boilers, built for the B&O between 1832 and 1837. One of this type was the first American locomotive built for export. She was sold to the Dresden RR. in Germany.

57 *Why are the front cylinders of an articulated engine bigger than those in the rear?*

They aren't always, except on compounds where the expensive power of steam from the boiler is used twice—first in the rear (high-pressure) cylinders, and then in the forward (low-pressure) cylinders, which are larger in diameter. In starting, steam goes to all four to develop maximum tractive effort. Once under way, the changeover to compound helps to conserve steam.

58 *Which is the longest railway tunnel east of the Mississippi?*

The Hoosac Tunnel on the Boston & Maine at North Adams, Mass., 25,081 feet long and double-tracked.

59 *What was the total sum paid in wages and salaries to U.S. railroad employes in* 1956?

About five billion dollars, or $13,700,000 a day. This does not include the pay of employes of companies that sell supplies and equipment to railroads, nor firms operating businesses which depend on the railroad.

60 *When and where was the first telegraphic train order transmitted?*

October 1, 1851, at Turner (now Harriman), N.Y.

61 *What were Forney engines?*

A certain type of small steam locomotive in which the engine and tender were one unit. The earliest models had an 0-4-4 wheel arrangement. These teapots were designed and built by M. N. Forney to meet demands of city rapid transit service. They proved so popular that in time other locomotive builders began producing them in quantity. (See "Third Avenue El," June '56 *Railroad.*)

RUNNING EXTRA

WHO knows the words to an old song which starts out . . .

"Oh, goin' east they're loaded
Goin' south, sealed tight . . .
I guess I'll hafta get aboard
The fast express t'night."

ADDITIONAL data for S.B. Kurzina, Jr. (Aug. *Running Extra*) comes from Harry B. Feltwell, Rte. 1, Crown Point, Ind. He says: "The railroad at Sinnamahoning, Pa., was owned by Barclay Bros. Lumber Co., which operated a sawmill there from 1880 to 1907 and used the line, known as the Wykoff Run RR., as a feeder.

"Equipment consisted of one Shay-geared locomotive and one 2-4-2 saddle-tank, a number of log cars, and two Barnhart steam-driven log loaders that traveled on rails mounted on the cars. The line extended for 16 miles through the Wykoff and Jerry Run valleys, and was abandoned in 1907.

PENNSY K5's (see Item 13, Aug. '56 *Information Booth*) interest Warren D. Stowman, 2011 W. Godfrey Ave., Philadelphia, Pa. He says that only two of that class were built (Nos. 5698 and 5699) — powerful Pacifics with 27x28-inch cylinders and 250-pound boiler pressure, with a tractive force of about 54,000 pounds. Brought out in 1929 to haul the Blue Ribbon freights (the fast overnighters of that day), their last regular assignments were to pull the *Liberty Limited* between Baltimore and Harrisburg.

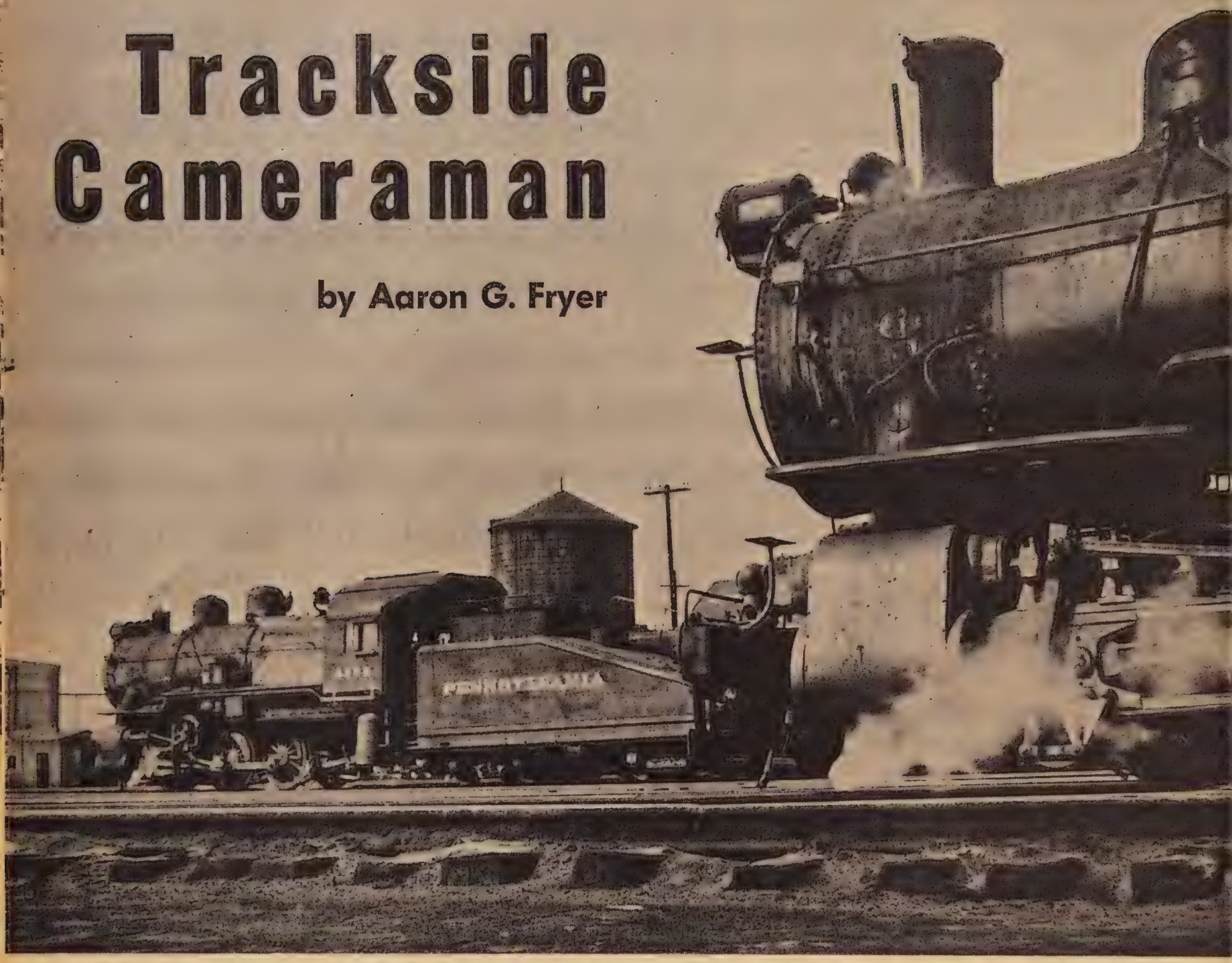
CAN anyone furnish a history of the Shaw Lumber & Railway Co., of Saskatchewan, for Blair R. Shaw, Tabor, Alta., Canada? Besides being naturally interested in the name Shaw, he'd like to model that pike.

Baltimore & Ohio Railroad

This trackside building, located near Baltimore & Ohio's Mt. Clare shops, was the home of master mechanic A. J. Cromwell back in the 1870's. He reared his family in this house, with the railroad almost on his front porch. It is now a storeroom.

Trackside Cameraman

by Aaron G. Fryer



Optical illusion. These two 0-6-0 switchers operating at the Pennsylvania-Reading Seashore Lines terminal in Camden, N. J., are actually the same size, but the perspective registered by the author's camera makes No. 6389 look like a midget.

BEFORE pointing your camera at a railroad subject you should decide *why* you want to take the picture—for record purposes or to express an emotion, a feeling for art. Record shots, above all else, must be clear and sharp. In my judgment, the ideal angle for shooting a locomotive is 45 degrees, which shows the front as well as one side. Steam-engine pix should include all of the tender.

Aaron G. Fryer

Pictures taken to express a mood—sometimes called railroad pictorials—call for a different technique. They comprise such factors as composition, contrasts between light and dark areas, and especially a "picture sense," which corresponds to the reporter's "nose for news" and the gardener's "green thumb." You must control your composition and lighting, even in the dark room afterward while you are developing and printing your pictures.

For the "arty" shot a blend of mood, atmosphere, interesting lights and shadows, and a touch of individuality give your work distinction. The more thought and skill you bestow on such factors, the more lasting joy you will get from your hobby.

In railroad photography I prefer the focusing twin-lens reflex cameras. They yield a 2¼-inch square negative and their lenses give sharp definition, permitting large blowups with negligible loss of quality. They also lend themselves to easy use on the smaller tripods or in hand-held

operations for action shots when a tripod may be a hindrance. Furthermore, this type gives you the advantage of actual picture-size groundglass composing and focusing in a compact camera.

Most of my own railroad pictures are made with a Voightlander Brilliant or a Ciroflex. Incidentally, besides having had photos in *Railroad* and *Trains,* I've been represented in *Look, Coronet, The New York Times,* and a long list of other publications, including calendars. So I am writing from the double viewpoint of a hobbyist and a professional. And I love railroading.

Living in Philadelphia, I often make trips across the Delaware River to the Camden, N. J., engine terminal of the Pennsylvania-Reading Seashore Lines and shoot the steam power there. I also managed to get some shots of the last days of the Philadelphia & Western's Strafford line. And a short time ago the Reading authorized me to photograph the revival of its steam power at Rutherford and Gordon, Pa.

Railroad atmosphere may be imparted by semaphores, platform lamp-posts, gingerbready trainsheds, and so on. Now and then a striking object in the immediate foreground will add punch to your scene and give a feeling of depth. A dwarf signal, for example, or a switchman with a lantern. Before shooting an engine or train I try to select a spot that offers a graceful composition. I look for trackage in the foreground to provide lines along which the eye will travel to the main subject.

In all fine photography the lighting is important. It does much to set the mood for your picture. Avoid the bright overhead glare of mid-day sun, if possible, when photographing a locomotive, because it sheds too little light on the drivers and running gear.

I dislike, too, hazy or weak sunlight, except for back-lighted scenes in winter or fall when you can get pleasing effects, especially with steam power. Adverse weather conditions, while discomforting to work under, or the magic of night, make some choice photographic effects possible.

With skillful handling, you can count on snow for mood pictures (see page 14). Of course, you will guard against the glare of sparkling white areas and the tendency to lose details in excessive contrasts between your lights and darks.

At night you can often introduce your own "lamplight" exactly where you want it by setting off flash bulbs in suitable spots during the time exposure—but shield your bulb from the camera's view—or use your flash as the main light source. The new fast films offer picture opportunities at dusk with a nocturnal aura on relatively short exposure. Use a tripod or firmly support your camera otherwise for an exposure of a tenth of a second or longer. Best steam effects are obtained in early morning during cold weather.

Steam locomotives are more photogenic than diesels. Yet you can get some smart effects with diesel lines and contours. This is particularly true with many road switchers and transfer units currently in service. Usually I rely upon surroundings and objects along the right-of-way to pep up my diesel shots. But with all the tricks in the book, a diesel still lacks the dramatic impact of smoke and steam.

[illegible] handle it well, can give you a lot of satisfaction. For example, a shot of a Pennsy K4 hauling a five- or six-car local freight with a wooden caboose on the rear, or any odd combination of motive power in action.

Finally, you should get permission from a company official in advance before visiting an engine-house or a railyard. If you don't, you are likely to find yourself on a wild-goose chase. Pick out a name from the *Official Guide,* preferably a public relations officer, and write to him. But make your letter good, because no brass collar will let irresponsible shutter-bugs interfere with railroad operation or endanger their own lives.

Certain jobs have to be done around a railroad regardless of whether or not you take the kind of picture you want. ●

Both photos by Aaron G. Fryer, 6001 Drexel Road, Philadelphia, Pa.

Picturesque station on Pennsy main line: a study in Victorian "gingerbread."

MAIL CAR

(Continued from page 8)

middle of the train. So the brakeman took a chain from the caboose and dragged it through a foot of snow to chain up the B.O. and set it out.

A hobo emerged from the disabled car and said: "Trouble, buddy? Here, let me help."

The brakie accepted this offer, meanwhile relating his tale of woe. "Tryin' to make it home for Christmas, and the half-witted throttle-jerker had to pull a drawbar!"

"Take it easy," said the bum. "I had *real* trouble. Y'see, I was an elephant trainer in a circus. We had fifteen elephants and when we paraded I would put a big bull in front and couple 'em up, each pachyderm catchin' hold of the tail in front with his trunk. Well, one mornin' when I whistled the elephants off I seen a kid standin' there watchin'. He follers the parade till it gets stopped for somethin' or other. Then he edges up close to the bull and whistles, but not loud enough for the other elephants to hear him. Well, sir, that bull lunged ahead, took the slack, and mebby you won't believe me but he pulled out thirteen tails!"

The brakeman laughed so heartily that the B.O. was chained up in no time at all, and the rattler was rolling again—home for Christmas!

MISS RAILROAD MAGAZINE of the month, Caroline Kirkman, is a general manager's daughter. Her father, O. Arthur Kirkman, Jr., is executive vice president, g.m., secretary, and treasurer of a North Carolina short line, the High Point, Thomasville & Denton. This road runs in the family. One of Caroline's grandfathers promoted the road and operated it for six years. A cousin, T. C. Kirkman, is the HPT&D's industrial engineer.

"Back in the days of coal-burners," Caroline tells us, "dew saved the High Point line an average of about $2,000 per year in fire claims. That was because the road usually operated at night, the train leaving just before the dew fell and returning before the bright morning sun dried it up. On such runs no engine spark could set a farmer's broom sage on fire.

"But there were some daytime runs. One engine ignited a widow's field and the flames got close to her barn before

Miss Caroline Kirkman likes to ride in the cabs of diesel-electric locomotives.

they could be put out. The actual damage was nothing. But the woman felt so upset that my father authorized a $50 payment to soothe her feelings and avoid a fire claim. This delighted the widow. She spread the word far and wide that Mr. Kirkman was a fine, generous man.

"Right after that the number of fire claims increased. It seemed that some people hoped to get easy money. So the company adopted a new policy. Upon receipt of a claim, a qualified person would promptly and carefully measure the burnt area. A just claim would be paid at once; an unjust claim would be fought in court. This announcement put an end to fire claims on the HPT&D."

Caroline is a Duke University freshman. She lives at 501 W. High St., High Point, N. C., is gifted mathematically and musically, and likes to ride diesel-electric locomotives.

TRACKSIDE Christmas. A Southern passenger train en route from Jacksonville, Fla., to Cincinnati on Christmas Day, 1955, made an unscheduled stop in front of the humble dwelling of Mr. and Mrs. J. L. Oliver and their three small children seven miles from Tifton, Ga.

A group of grinning crew men, headed by a Santa Claus in costume, unloaded and staged a surprise party. They presented gifts of clothing, toys, and food, including a turkey, and $162 in cash, all donated by big-hearted crews operating past the house.

Passengers watched through cold-fogged windows as the procession crossed over a ditch to the Oliver home. The youngsters danced with joy, but the parents were so overcome with emotion that they could hardly speak. At length Mr. Oliver, crippled by a bone ailment, managed to say, "Merry Christmas and Lord bless you!"

The affair was planned by railroaders who pass the home regularly and had noticed the family's need. Brass collars gave special permission for the train to stop there.

PACIFIC GREAT EASTERN recently made its first run over the entire line, 470 miles, with three sections that included equipment borrowed from other roads, reports Ernie Plant, president of the PGE Boosters, 6463 Chatham St., Box 40, Horseshoe Bay, B. C., Canada.

"A rock slide delayed the first official train about 18 hours," he writes. "I was a guest of the provincial government on that trip, which took us about four days. 'Due north to the New North,' is the PGE slogan. Heavy freights now running over the new line have supplanted the old barge system pictured in your December issue. The road has scrapped all steam power except No. 160, which is held for standby service."

The PGE Boosters is a fan organization formed in 1948 by Ernie Plant and John A. Wood, who were then British Columbia Electric employes, and Jack Hughes, a radio man.

"We now have 157 members," says Ernie. "One of our membership requirements is that you make a trip over the entire line with the Boosters."

The PGE may eventually be extended to Alaska. Meanwhile, two trainships now being built for the Alaska Steamship Co. will be the largest commercial vessels regularly operating out of Seattle, Wash. Each is 585 feet long, with an 86½-foot beam (width), and will be able to carry 110 railroad cars, plus other cargo, between Seattle and Whittier, Alaska.

LUCIUS BEEBE'S frank remarks in the *Mail Car* in connection with our 50th anniversary evoked a flood of

mail from readers. "Most of the vitality and life went out of the carriers with steam," Beebe contended, "and it is conceivable that they themselves have committed economic suicide through their complete failure to understand that the hold they had on the general imagination can never be regained by any other form of motive power."

"This comment is a gem worth framing and hanging over your desk. I agree 100 percent." So says Morse telegrapher Jesse M. Grigg, 5951 S. Tripp Ave., Chicago.

"Beebe hit the nail on the head," writes Bill Knapke, retired Southern Pacific conductor, 9 North Lane, Orinda, Calif. "The lessening of public interest in our industry is due not only to the passing of the steam engine but also to the type of men currently engaged in mechanized transportation (you can't call it railroading). I do not belittle the present-day railroad men; I merely point out that the cog-in-the-wheel work they do does not call for the initiative and resourcefulness of former years."

"Beebe is right," says Roger W. Gillis 975½ S. Williams St., Denver, Colo. "The steam engine is dramatic. She has personality. The diesel is a sleek, clean, efficient machine and that is all. Regardless of how much diesel material you publish, let the steam engine remain alive at least in the pages of *Railroad Magazine*."

H. C. Steely, Williamburg, Ky., writes: "Dieselization, CTC, and push-buttons make railroading as glamorous as long-distance trucking."

Many other letters express the same general ideas, but there are a few dissidents. Speaking for the modern minority, A. J. Franck, Box 171, Richmond Hill, N. Y., declares: "Lucius Beebe ought to climb back on his stand in the museum with the rest of the fossils. I'll bet his pappy wept for the passing of the horse cars and his grandpappy for the extinction of the towpath mules.

"What keeps the railroads alive today is not the crackpot fringe who ride to location in jalopies to snap pictures of smudge-pots blackening the sky and countryside, but the host of sane people who like to travel in cleanliness and comfort as well as those to whom the fast and reliable movement of goods is a matter of consequence.

"As a *paying* patron of the railroads, I wouldn't go back to the old steam era for all the tea in China. I recall numerous trips on the Lackawanna on summer days when you had to open the windows in intolerably hot and stuffy coaches and then, every few miles, brush off the anthracite crumbs from your clothing. I remember, too, many times at railroad stations when steam trains went through and I ducked under cover until the shower of cinders ended. As a kid I loved to watch such trains—but I grew up."

Says J. W. Brunner, Box 22, Valier, Pa.: "I can't agree with Beebe that the railroads ruined themselves economically by dropping steam power, but they sure ruined my interest in them."

"Diesels are as photogenic as steam engines," contends Sy Reich, 92 St. Marks Pl., New York City. "Seeing a six-unit diesel haul a mile of freight cars thrills me. If the railroads had kept steam power, as Mr. Beebe suggests, nearly all of them would be bankrupt by now. Diesels cut expenses."

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"Thanks for assistance in attaining a better position with the Game Commission . . . was given a promotion, a raise, and supervision of 5 men." C. G., Neb.

Game Warden says: "I have never read or seen anything that gives a man such a wonderful background on job opportunities in this field . . . should prove of great value to anyone wanting (an outdoor job)." J. F. C., Game Warden, Minn.

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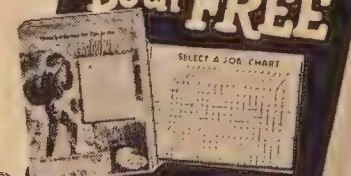

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Wait a minute, Sy! What about the Norfolk & Western? The N&W is doing well with big modern steam power and only a very few diesels.

Space prevents us from printing additional arguments on both sides of the hornets' nest that Lucius Beebe kicked over.

HOMESTAKE tunnel, which crosses the Continental Divide near Butte, Mont., has just been sealed up at both ends. Northern Pacific trains are being rerouted through a new open cut 300 feet south of it. This is in line with the modern trend to speed operation by eliminating tunnels, straightening curves, and building cutoffs. The 706-foot Homestake was drilled through solid rock 67 years ago. It is now closed, we presume, till the Judgment Day.

JOHN RINGLING, the circus man, built a railroad from Ardmore, Okla., west to Wilson, Ringling, and Healdton, in 1913. The Santa Fe acquired it as a branch more than 30 years ago and now runs mixed trains over it. Roy M. Johnson of Ardmore sends this information in answer to our query (Oct. issue), "Who knows of other mixed trains operating today?"

William E. Warden, Jr., 233 Florence Ave., Waynesboro, Va., studied the current *Official Guide* and found hundreds of mixed trains—too big a list to print here! Roger Breslow points out that the Canadian National has many mixed trains running tri-weekly or less.

HOWARD A. HALLBERG, pictured on our October cover, is a Union Pacific switchman, *not* a brakeman as we stated, and lives at 9239 Badminton Ave., Whittier, Calif. Two of his brothers, Earl and Charles, and his father-in-law, Ralph E. Smith, also work for the UP. So did his father.

OUR October '56 issue contained three photos of unusual interest to Theodore Vaill, publisher of *The Winsted Evening Citizen*, Winsted, Conn.

"The shot of the White Pass & Yukon's No. 69," he writes, "brings back pleasant memories of a ride I had behind her in August, 1949. Your picture of Boston & Maine No. 4204 was taken one day in 1944 when I happened to be in the cab. The third picture that appeals to me especially shows the Canadian Pacific's Kettle Valley line, over which I have traveled several times. I have pictures of that same trestle and rathole. However, the train is not a fast freight but is No. 68, the *Kootenay Express*, westbound. This train, like its eastbound counterpart, No. 67, always carries a few freight cars equipped for high-speed passenger service.

"Recently I journeyed through Canada via the CPR and the Ontario Northland. The ON is entirely dieselized, but there's plenty of steam to be seen up around Cochrane and between Montreal and Toronto, also Quebec way. Both CPR and CNR still use considerable steam power in the East—nicely kept equipment, too."

One of Mr. Vaill's great-grandfathers was president of the Connecticut Western, which later became the Central New England, now part of the New Haven. He died from injuries sustained in the CW train wreck at Tariffville, Conn., on the night of January 14, 1878. A bridge collapsed, killing 17 persons and seriously injuring 43 others. The train was an extra returning from a religious revival meeting at Hartford. Our July '36 issue carried an illustrated article on this tragedy.

ADVENTUROUS firing on the Milwaukee's La Crosse Division in the year 1913 is recalled by Harry D. Lyons, 1919 Kenyon St., N.W., Washington, D. C., author of a new book, *When McQueen Was King* (see page 70).

Harry D. Lyons

"One night," he says, "we left Portage westbound for La Crosse, with Eddie Gaul at the throttle and 84 cars tied to the tail of an L-2. There was no way for us to have taken water at Portage except by heading out onto the eastbound main and running down to the plug at the east end. That we didn't do. Instead, I measured the water in our tank and found we had enough to go to Kilbourne (now Wisconsin Dells), 18 miles away.

"We took water at Kilbourne; after that, our time-freight schedule was so tight that Eddie decided to run two regular spots, New Lisbon and Sparta. Eddie was a ballast scorcher. Even while going through towns that night he pinched her up very little. I saw to it that the L-2 never blew off. Finally, in North La Crosse yards, we laid the train away and went on up to the engine track at the roundhouse. Eddie hooked her up—the first stop in 86 miles! As he pushed in the throttle, the injector broke. Again I measured our water. We had none! The slash bar wasn't even damp!

"It was a remarkable run, but I hate to think what might have happened if we'd gone a few hundred yards further on that night."

77 YEARS of Chesapeake & Ohio service—that's the great record of 89-year-old O. A. Spears, recently retired. Spears began his rail career at age 12 as a waterboy for section crews and, while yet in his teens, became a king snipe (section foreman). Shifting later into train service, he acquired 67 years' seniority, 63 of them as conductor. Asked why he'd kept working so long, he said, "You're liable to go out a lot sooner if you sit around and wait." This note comes from ex-boomer J. H. Wynn, 142 Strathmore Ave., Ft. Thomas, Ky.

A QUAINT CUSTOM long ago in Pennsylvania was to list the name of each person who made a railway journey. This record was kept at the station where you boarded the train. An old booking ledger started in 1838 by the Reading agent at Phoenixville showed a careful recording of names in that year; but by 1840, when the last entries were made, the agent omitted names and used such designations as "Boy," "Lady," "Stranger," "Friend," and "Whiskers."

YULETUDE MAIL. Imagine if you can, 5,000 fast trains of 12 cars each. Now, put those trains together end to end, and you'll get a line of cars that would stretch all the way from Washington, D. C., to Chicago.

This will give you some idea of the immense mountain of mail that the railroads move in one year during the 24 days from December 1 until Christmas. The packages and cards and other things amount to more than five and a half *billion* pieces. Most of this load is handled in trains between our cities and towns regardless of weather.

$50 TIP. James Thomas, a part-time redcap in the Atlanta terminal of the Central of Georgia,

will never forget the passenger who gave him a $50 bill for toting luggage to train 32. At first Jim didn't notice the size of the tip. When he did, he decided that the half-century note must have been handed to him in error, and he went back to the train and returned the money. The startled passenger said, "You belong to the right church," and gave him $4.

LARGEST city in America without railroad service is Miami Beach, Fla., whose normal population of 40,000 is swollen to about 200,000 in winter, reports Roger Breslow, Providence, R. I.

ONE MAN'S OPINION. "Give us more historical fact articles, especially those dealing with short lines, past and present, but never more than one fiction story per issue," writes Stephen M. Mason, Fair Lawn, N. J. "Donovan's 'Canyon War' (Oct. '56) is one of the best features you've ever had. In every issue I like the big full-page photos. Sometimes your front cover is so good that I buy an extra copy of *Railroad* and clip the cover picture and frame it."

PERSHING-TYPE engine in October's *Along the Iron Pike* caught the eye of S. Lancester, 92 Ocean St., Manchester, Mass. "These 2-8-0's were ordered for the American Expeditionary Force in World War I and are now in Korean service. Joe Easley's caption said the 765 was the only one of 150 built by Baldwin which didn't go to France. Actually, Baldwin built more than 150.

"On November 13, 1918, the AEF had about 1,100 American-built locomotives either in service or afloat. The design adopted was essentially the same as one that Baldwin had been building for the British Government, the main difference being that the British preferred saturated steam while the Yankee specifications called for superheaters. Both Baldwin and the American Locomotive Company supplied the AEF with motive power. The Alco products differed from the Baldwins in minor details. The standard-gage 2-8-0's of World War II were somewhat less powerful than the World War I design."

Joe Easley asked if the Spanish National switcher he pictured in the October issue was the world's oldest active

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locomotive. "No," replies John B. Simcox, 141 High St., Tewkesbury, Glos., England. "Even older is No. 27, now working for the National Coal Board in Durham, England. Built by Robert Stephenson in 1845 or '46 (experts differ), she was rebuilt as an 0-6-0 saddle-tank in 1898. For many years she was No. 30 on the old North Eastern Railway.

"Geraldine Howell's picture on the same page reminds me that there is also a woman signal box (tower) operator on the British Railways at Beckford, a village seven miles east of my home. I do not know her name.

"Question 35 in October *Information Booth* read, 'Why is it that a large percentage of British locomotives are not equipped with headlights?' Actually, of all the 18,000 locos belonging to British Railways, I know of *only one* that has a headlight! I refer to the largest helper engine that operates on the Lickey Incline, near Birmingham. Her light was fitted on to enable the driver (engineer) to judge his speed more exactly when coming up behind passenger trains at night.

"Even on the unfenced branch line between Fraserburgh and St. Combs in Aberdeenshire, Scotland, the locos have pilots (which is unusual in Great Britain) but no headlights. However, you can find loco headlights on some of the privately-owned railways at dock and harbor installations, large industrial plants, and public utilities, for obvious reasons—so many people walking about at night." ●

WAITING for homebound trains to London after a holiday at the English seaport city of Brighton on a bright sunny day were approximately 40,000 people forming a queue; four abreast, extending back for *a mile and a half* from the railway station, reports Joseph Fox, BM/Exn. 3, London, W.C. 1, England. That line-up just about set a record for peacetime travel. Said Stationmaster E. G. Down: "We arranged several extra trains because Brighton races are on, but we didn't expect this crowd." ●

BOYHOOD recollections prompted this letter from Douglas F. Stickles, Lakefield, Minn.: "Living on the shore of Lake Superior, with the old Duluth & Iron Range practically in my back yard, I remember the building of the Soo Line into Duluth from the Twin Cities, and this line soon gave the Northern Pacific and the Great Northern a fast run for their money. A picture book given to children on that first run was called *When Sue Rode the Soo from Twin Cities to Twin Ports.*

"The Soo Line tunneled under the Point of Rocks to build its Duluth station and operated modern, all-steel, electrically-lighted trains, the coaches painted maroon with gold lettering. The day train carried a buffet-library-cafe-observation car with an oversize, open, rear platform. Today the 'Big G' is top dog on this route, while the Soo is reduced to a daily coach local." ●

MEMORY pictures of a rail career that began in 1903 enrich the private world of A. A. Freiberger, Longville, Minn. "My first job," he writes, "was that of a boy telegrapher at Glen Mary, Tenn., on the old Cincinnati Southern (later the Queen & Crescent, now part of the Southern system). Afterward, I boomed around for thousands of miles from Alaska to Central America. Besides being a lightning slinger, I worked as station agent, dispatcher, chief dispatcher, locomotive fireman, switchman, trainmaster, superintendent, general superintendent, and finally train rules examiner on the Chicago Great Western, from which I resigned in 1952.

"One starry night in the New Mexican desert country I'll never forget. I was a railroad telegrapher then and I rode my pony 45 miles through the wasteland to get a doctor for a section foreman's sick child. After I described the symptoms, the doctor picked up the local undertaker and a little pine coffin and took them along on his buckboard to the lonely outpost where the king snipe's family lived. His hunch was right. The child died that night, as I was soon to learn.

"On my way back, three renegade Apaches from the Mescalero Reservation waylaid me. I knew they liked firewater, so I tossed them a bottle from my saddle bag. While they were fighting over it and their rifles lay on the ground, I quickly rode off. Two days later those same redskins murdered a woman and a child on a Lincoln County ranch. For this crime they were tried and convicted and were hanged in the same jail yard from which Billy the Kid had once escaped." ●

A PULLMAN porter's actual report of a runaway, written at Butte, Mont., Nov. 8, 1908, according to *The Pullman News,* has a humorous aspect. Here it is:

"Leaving St. Paul on November 5, 1908, at 10:30 p.m., car *Umpyna,* Northern Pacific Ry., arriving at Butte on November 7 at 6:20 p.m., deadhead. I learned that I would remain in Butte until Tuesday when Jackson would return from Spokane with his car and when I would give him my car *Umpyna,* and take his car deadhead on to Tacoma or Seattle. I ate supper and went to bed at 11 p.m. November 7. I awoke and found I was moving, and I thought, of course, a train crew had taken charge, so I paid no attention to my riding.

"I kept looking out the window and noticed we were running unusually fast and had just passed some station. I got up and dressed, lighted my lantern, and went to the front end of my car, and found nothing in front of me—no signals or anything. So I says to myself, 'This is queer railroading!' Then I went on through the *Kooskia* and found no porter aboard, so I kept on through to the rear vestibule and found it the same as front of my car *Umpyna.*

"Then I turned pale, as at this time the two cars were making at least 75 miles an hour. I grabbed the brakes and began working the ratchet, but no human being had power to control hand brakes at such velocity of speed. So I ran to the front of my car and saw men piling tie sand putting a rail across the track in order to ditch the two runaways, not knowing that anyone was aboard. But the cars were too slick for that game. They broke the rail in two pieces and shoved the ties ahead nearly two miles, knocking down switches.

"A Butte, Anaconda & Pacific freight had just pulled in below Durant, Mont., and the crew opened the switch, which put my cars on their road, at the same time administering to us an upgrade. Otherwise I would have kept on the Northern Pacific downgrade to four miles beyond Durant. The fact that No. 2, the *North Coast Limited,* was late saved me from slapping them square in the mouth. So I am still alive but awful scared.

"Cause of the runaway: brakes being released by some unknown person in the yards. They telegraphed all along the line to look out for runaway cars, but I was beating telegraphic communications time." ●

PHOTO-OFFSET printing has done a lot to improve *Railroad*, many readers tell us. "The last few issues are superb," writes B. L. Stickles, 564 Foredale Ave., Toledo, Ohio. "Yours is the only magazine that brings back the great days of steam and Morse. I am a Morse operator. We telegraphers read every issue through, sometimes twice." ●

ANSWERING our query, "What is an English yard bird?" several readers define it as an HO gage model of a Pennsy switcher, manufactured by John A. English. ●

DISAGREEING with Warren D. Stowman's statement (Oct. issue) that all the so-called Russian decapods have been scrapped, Thomas Lawson, 2533 Montevallo Rd., Birmingham, Ala., writes: "One of them is now working for Woodward Iron Co. at Woodward, Alabama. Built by Baldwin in 1928, she formerly ran on the Alabama, Tennessee & Northern. I'll send a snapshot of her to anyone for a dime and a 3c stamp."

Another is currently hauling freight on the Gainesville Midland between Athens and Gainesville, Ga., according to J. W. Steadham, 7 Hillside St., Lindale, Ga.

"This short line," he tells us, "is currently operating eight steam engines and is friendly to railfans. No. 120 is one of the order originally destned for Russia but never sent there. She has wide driver tires with treads cut down from the Russian gage, 4 feet 9 inches. The GM also boasts what may be the only Stephenson slide-valve 2-8-0 still extant. This engine, No. 116, with a shiny new paint job, is on switching duty in Athens." ●

B&M ROSTER, which the road itself supplied for our October issue, did not mention Pacific No. 3713, still stored in the Boston roundhouse. "Also," writes Ralph L. Phillips, 17 Eden St., Salem, Mass., "series 900-907 should be 800-807. Another typographical error listed Mogul No. 1498 as a 4-6-2."

Elwin K. Heath, Barre, Vt., says the roster omitted diesel 1111 and has a few other discrepancies. "Diesel 3820 is missing because she was destroyed in a wreck," he adds. "She was the last EMD E-7 built; while 3821 was the first E-8."

Mr. Heath has sent us a renumber-

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TROLLEY CAR TREASURY

By FRANK ROWSOME, Jr., Stephen D. Maguire, Technical Editor

● A McGRAW-HILL BOOK

ing of Canadian National's steam and diesel locomotives. We hope to publish it soon.

Question from Russell Karns, member of two railfan clubs, 2545 Brewster St., Redwood City, Calif.: "Of what use is a locomotive roster to your average reader?" Will someone tell him?

WE ASKED in a recent issue, "How many oldtimers recall the days before water coolers were installed in passenger cars and a boy went through the train toting a tray of glasses and a pitcher of icewater?"

"I do," says C. L. Brown, 379 Maple Row, Lancaster, N. B., Canada, "but the procedure varied. On some roads a trainman would carry around a large can and serve the passengers out of tin cups. On others he toted a round-bottom glass set in a wire loup attached to the spout of the water-can."

Mr. Brown is a retired Canadian Pacific engineer. His father was a hogger on the New Brunswick Railway.

RAILWAY stations are often used for other than transportation purposes. For instance, besides being a depot, the Texas & Pacific station at Merkel, Texas, has served as a post office, a school, a telegraph office, and a church.

WHO designed and built the world's first steam locomotive? Brushing aside the claims made for Richard Trevithick, George Stephenson, John Stevens, and Peter Cooper, circumstantial evidence now points to John Fitch, a native of Connecticut, who is best known as the father of the steamboat.

Did Fitch actually build the first locomotive? Nobody can say positively. The case for Fitch is presented in articles written for the Public Affairs Institute by Alexander Uhl and for *Museum Echoes*, bulletin of the Ohio Historical Society, by James H. Rodenbaugh, its editor.

Uhl's theory was developed after extensive research and the study of a crudely-designed model locomotive now on exhibition in the Ohio State Museum at Columbus. He contends that Fitch invented it several years before Trevithick built the first locomotive to run on rails, and a quarter-century before Stephenson built and operated his first successful locomotive in England.

The Fitch model was given to the museum in 1903 by A. W. Whiting, a great-grandson of Mr. Fitch. He said that in 1849, as a boy, he found it while rummaging through his grandfather's dusty old attic in Worthington, Ohio.

There was no steam railroad anywhere when Fitch died, a suicide, in 1798. The first recorded application of steam locomotive to rails was by Trevithick six years later. Charles Whittlesey, whose biography of John Fitch came out in 1845, four years before the model showed up in the attic, described such a model in his book.

The Mercantile Library in St. Louis exhibited this antique for years as "Fitch's last model for a river steam engine." A newspaper story said: "It rests on a model railway car . . . embracing all the essential requisites of the present railway car, such as a flange on the rim . . . used for a guide to keep the wheel on the track." The reporter expressed his opinion that the device was to be the propelling mechanism of a steamboat running on tracks under water. Modern experts call it a locomotive.

About the time of the Civil War the model vanished for many years but was finally recovered and given to the museum.

LAST-MINUTE NOTES. New York Central has discontinued its low-center-of-gravity *Aerotrain* after six months of experimental runs.

Adding a personal touch, British Railways are now affixing a plate with engineer's name to the cab on principal main-line trains.

Vandalia's No. 36 (shown on page 22) was famous only for the picture that an artist drew of her racing an automobile downhill, according to "Carload Andy" Ospring, 1322 N. Ontario St., Burbank, Calif., who fired her unhappily several times.

"In answer to my letter in October '56 *Railroad*, page 73," writes Fred Bailey Thompson, author of circus books, Clarkston, Ga., "I received over

Test Your Railroad Knowledge

Counting 5 credits for each correct answer, how much would you score? (Answers on page 64.)

1. Define braking power.
2. Which was the first steam locomotive to be placed in regular service in America?
3. Guess the number of track miles of CTC in the nation.
4. When was the first international railway link built in North America?
5. What is "bumping" on a job?
6. When were reclining seats first used in American railroad coaches?
7. Who introduced the block-signal system through telegraphy?
8. What is a bogie?
9. Is the wheel arrangement on steam locomotives universal?
10. Which American railroad is built below sea level?
11. What was the first type of fuel used in railway coach lamps?
12. When should the booster be cut out?
13. Who patented the first automatic coupler?
14. What is the oldest railroad bridge in North America?
15. When is the retaining valve used?
16. Who supports the Travelers Aid Society?
17. What is demurrage?
18. Can you guess the number of railroad tunnels in the United States?
19. Is air-brake equipment on a freight car different from that on a passenger car?
20. Which was the first locomotive to have a pilot—or cowcatcher, as it was originally called?

200 letters and cards from nearly every state in the Union and 20 from Canada." (What, none from overseas?)

The Age of Steam, described by Lucius Beebe and Charles Clegg as their "farewell to railroading," will have over 500 black-and-white pix on its 304 pages when published next September by Stanley Rinehart, New York. Regular edition, $12.50. Special signed edition, $16.50. Colored reproduction of a Howard Fogg painting of a double-headed Virginia & Truckee train goes with each de luxe edition.

"Where can I buy a steam loco bell and yoke, a trolley-car gong, and a full-sized horse-drawn streetcar?" asks Walt Popek, 15 Main St., Garfield, N. J.

Caption in October '56 issue at top of page 49 is incorrect, according to Donald R. Sease, Box 455, Jamestown, N. D. The photo really shows an EMD F-7. Our Northern Pacific roster had engines 23-27 built in 1899; actual date was '98.

Joseph Valesh, New Albin, Iowa, wants to know where he can buy a 24-inch-gage steam dinkey locomotive in good condition for hauling gravel. ●

Might as Well Enjoy It

A MAN applying for the job of crossing watchman, says the *Canadian National Magazine,* was asked by the personnel manager:

"What would you do if you saw two trains coming from opposite directions, both on the same track?"

"I'd flag them down," said the applicant.

"But suppose it's dark?"

"I'd run to the shed for my red lantern."

"But suppose there was no time for that?"

"Well, I'd holler at the engineers."

"But they couldn't hear you, because they were both whistling for the crossing."

The would-be crossing watchman thought it over for a while and then said, with a shrug of his shoulders, "Well, I guess I'd go and phone my sister."

"Why on earth would you phone your sister?" asked the personnel manager.

"Just to tell her to hurry down to the crossing if she wanted to watch the darndes train wreck she could ever hope to see." ●

...By JACK R. WAGNER
authoritative historian of Western Railroads

Foreward By
J. M. Hood, President
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The Kid Switchman

Hughie Lynn's First Night on the Job Was Storm-Drenched and Subject to the Whims of a Rawhiding Boomer Foreman

by Harry Bedwell

IN THE BACKGROUND, where the light was dimmest, young Hughie Lynn, sandy-haired and thin-faced, bent an ear to catch the muttered comments and queries of the switchmen. Their broken remarks seeped through the dusky yard office like echoes in a cave. Hughie snatched eagerly at the words and phrases that drifted over to him.

The room seemed to vibrate with the compact power of men lining up the night's operations. A raw and storm-drenched night it was, but the little coal stove gave forth a cheery glow. Yard crews, just in from hours on the dank switches, steamed around its red belly. The night men clustered around the counter, the pin men and fielders checking the switch lists with their engine foreman under the dull light globes.

A gray foreman grumbled, "We won't get them six loads over from the Consolidated to catch 89 tonight." He was on an outside engine, doing chores, and he stuffed lists into his pocket.

That started the empty crawl inside of Hughie Lynn again as he realized it was time for his tryout. "Which is Van Ardle?" he asked a big fellow leaning on a counter.

"That's him talkin' to the night yardmaster." The man glanced to the right. "Are you called to work the field for him tonight?"

Hughie nodded in silence.

"New here, ain't you?"

The kid nodded again. "Last man on the board and the first time called."

"That sure puts you up against it. Van Ardle is a rawhiding foreman if ever there was one, and his pin man, Lou Stecker, is a louse. Mebby you'll last the night with them, but not much longer."

"I'll get by," Hughie said grimly.

"Those guys are tough." The switchman grinned with malice. "They say that one night those two kicked a cut of cars over the edge of a mountain in the battle yard, at Butte, and the fielder was on top all the time!"

Hughie shuddered.

"They get sore easy and tear things up," the big fellow went on. "I worked with 'em once—but not any more."

The gray foreman eased in. "Van and Lou get tough with young punks pretty quick. When them two

switch, they really haul things around the yard."

"Yeah," scoffed the switchman, "but what does it get them?"

'A job wherever they want it," the foreman said. "That pair is as good as ever pulled a pin or a drawbar and you've got to step to keep up with them. Punks don't."

"Listen," the switchman confided to Hughie. "They're just a coupla stinkin' boomers. Don't let 'em rush you. Stall! To hell with their rawhidin'!"

That switchman hadn't been around. He was a home guard, a guy who stuck to one job in the same place. He disliked the arrogant boomers, but he also envied them.

The night yardmaster's eye flitted down the counter and speared the slender Hughie like a lance. He said something to the two men beside him, and the three looked at Hughie like horse-buyers judging a dubious animal.

One of them said, "Hey, barrel stave!" and beckoned with a jerk of his head.

The switchman standing beside Hughie guffawed. "Barrel stave!" he whooped and slapped the counter. Hughie's face reddened. Hooking his lantern in the crook of his arm, he tried to walk with an easy stride.

The night yardmaster introduced them. "Lynn, this is Van Ardle and Lou Stecker. The quickest way to find out if you are a switchman or not is to handle the field for them."

Van Ardle said quietly: "You've got hips like a snake, kid."

That remark could be taken a couple of ways. Hughie was lean at the hips. Also switchmen were called "snakes," not disparagingly but because the big letters on their order's emblem was serpentine. Van might be grading to either standard.

Lou Stecker, the pin man, was long and light on his feet. He was bent just a degree at the middle in a slight crouch from which he could flow into quick action. A hardy pair to boss a green kid switchman!

The night yardmaster said to Van Ardle: "Got it lined up? Grab those loads off the Southwestern transfer first. Then make up the two locals in time so you can help break up the time-freight as soon as she shows. She's due around two a.m., but may be late on account of the storm. We'll work the hotshot from both ends so as to get the perishables over to the transfers for the morning runs. Think you can make it?"

"We'll make it," Van Ardle said.

He buttoned his sheepskin coat against the March wind, took his lantern, and wandered out deliberately. The wind spat thin rain in gusts. The yard lights goggled like tear-misted eyes. A sharp scent of coal smoke swirled through the wet air. Yard engines coughed and boomed, their bells tolling like a funeral. Loose cars rumbled over the dripping rails.

YOU CAN'T make your boyish dreams come true while you're nibbling from a cracker-box beside the grocery-store stove. And you can't sneak into the switching game. Hughie knew those two facts. He knew also that he was going to work a strange yard and on a night when the visibility was low and the going insecure, and under two boomers who were notoriously hard to get along with. No use trying to bluff men like them, who've been around.

He turned to Van Ardle. "I lied to the general yardmaster about the experience I've had," he blurted out and the gusty wind made him choke.

"So what?" said the foreman. "Yardmasters are born to be lied to. That's how they find out misstatements so fast."

"I'm telling you now so you can turn me in if you think I'll get you in a jam."

"We don't jam easy," Van Ardle grunted. "How much railroading have you got on your record?"

"I had four months braking off the extra board," said Hughie, "but I wanted to be a switchman and I thought I was good enough. I put in four weeks at the Birmingham yard before they found out I wasn't. And they kept me only ten days in the St. Joe yard."

"It's a tough racket," said Van.

"But I like it."

"Oh, well! Watch sharp for the signals, catch the cars as they come to you, and don't split any switches. It's a swell night to make mistakes."

It was, but Hughie believed that now he could avoid some of them, anyhow. During his recent time of unemployment he'd thought out his past errors. Missing meals had stimulated his reasoning.

The men crawled under the storm curtains of their yard engine. Van muttered an order to the engineer. The headlight stabbed the rain, air sizzled, and the goat moved off, clanging. Red and green switchlights winked from the gusty dark. Fine smells of hot oil and live steam flowed through the cab. The fireman scattered coal upon his fire. Hughie's nerves hummed like tight wires in the wind.

They rolled up to an obscure

Harry Bedwell (right), Southern Pacific telegrapher, one of the top rail-fiction writers of all time, since deceased, is seen delivering a train order to SP conductor Bill Knapke, another good railroad author, now retired. Bill later served as Harry's literary executor.
Photo by H. L. Kelso, author of "Eight-wheelers"

switch and dipped into a dark siding. They tied onto thirteen cars and dragged them forth and moved back across the yard. They shoved four loads into the house track beside the freight platform.

The three men climbed into the cab again, and they clanked through empty, rain-swept darkness to an isolated clump of switch lights.

Stecker said: "I'll throw this switch. The kid won't know the right one."

He slid under the storm curtains into the cold rain as the yard engine slowed. As the drivers squawled under the pinch of air and the engine slowed, Van and Hughie got down.

"Cut them off at the goat and ride them down to the other end of the siding!" Van ordered as Stecker's lantern signaled a back-up from the rear.

The string moved back toward the red switch-light and the beckoning lantern. Hughie had his hand on the coupling lever as he walked to the opening between the tender and the head car. The exhaust flared briskly and the speed picked up.

He jogged on the unseen packed cinders, the rain driving in his face. In a strange yard you couldn't know the footing at night, or what lay ahead. Pools of water smacked under his feet.

Suddenly he realized that Van Ardle was beside him and whipping a lantern signal to the engineer. The string jerked to a stand. Van made a pungent remark that cut.

"Didn't anybody ever tell you to stand on the footboard to uncouple a car from the engine while in motion?"

"No, sir," said Hughie, bewildered.

"A fine job they did breaking you in!" he sneered. "Look!" Van swung his lantern low. "That footboard sticks out far enough to catch your heel and throw you down and maybe under the wheels if you're running with your back to it. As long as you're switching with me, you cut them from the footboard. Get it?"

"Yes, sir!" said Hughie as raindrops sizzled on his burning face.

"Try it again!" Van snapped.

HIS LANTERN swung expertly, and the impatient hogger spun the drivers in a hard burst of power. The string slammed out the slack and glided swiftly through the dark.

The dim wedge of the hind light on the tender flowed along the cars and plunged into a vast black wall that it couldn't penetrate. It looked as if they were shoving the string over an abyss. Hughie stepped onto the footboard, but he bent sidewise and stared at that dark pit they were heading into.

The cars at the other end dropped hazardously on an abrupt incline. The black hole into which they rolled was below and beyond the misty stab of the hind light. There couldn't be a bottom down there near enough to catch that string without wrecking it. Those nine cars loose on that slant would at once develop a speed that he'd never be able to check before they crashed. These two, he'd heard, had shoved a cut of cars over the edge of a mountain up in Butte, with the fielder on top.

"Cut them loose!" Van ordered, and swiped a signal to the engineer.

Hughie's hand clamped the coupling lever, but he couldn't raise it. He wasn't able to turn those cars loose and ride them to destruction. The goat checked sharply. Slack ran out with a savage yank and roar.

Van Ardle's lantern winked beside him again, and his words came savagely, "What's the matter? Lever stuck?"

"No, but that hole down there—"

"Cut them loose and ride them down!" Van's peremptory lantern started the engine backing again.

Cold wet wind crawled under Hughie's collar and drained down his back.

"Now!" barked the foreman as the throttle-jerker gave the string a kick.

Hughie barely raised the coupling lever in time as air sneezed and the engine stopped. He snatched the iron rungs at the side of the head car as it leaped away. The string lifted into howling speed and glided down the hard incline as he scrambled to the top.

The hind light faded out. Away ahead, a wet green spot marked the switch stand at the other end of the siding. The cars swooped like a roller coaster.

He slipped on the slimy running boards, staggered forward over the rolling top, and snatched the first brake-wheel. He twisted it furiously, putting his weight into a swing to get that last notch which would hold more than the previous three. Brake-shoes took hold and grunted.

A green dot ahead swam in the mist. When they met it they'd smash through something or else leap out into empty space. Hughie wrenched at the second brake, and the car bounced under the grip. Fine rail drilled into his thin face and half blinded him. Car wheels screamed on wet rails.

But you couldn't check them with brakes on that slant. They were falling. Well, it looked as if Van Ardle, who got sore easy, was going to be rid of Hughie at once. He'd know his fielder couldn't hold that string on greasy rails and that grade. The green splash at the other end of the siding streaked at his head. The cars bucked and roared.

THEN the momentum died like a flame at the end of the wick. It was a breathless shock, the way their fall eased. The string nosed up and scrambled out the back hole, with brakes and a sudden up-grade set against it. The speed choked and expired. That green light stood off at a distance and it seemed to be learing at him.

The kid couldn't get his breath fast enough as he ran back to let off brakes he'd been too quick to set. The up-grade was as stiff as the one coming down. He reset them at the first backward surge, but they hadn't met the end of the siding where Van had told him to spot the cars. Young switchmen scare too easily, especially when the next meal is dubious. Hughie went over the side in profound mortification.

Stecker met him at the footboard. "Listen, kid," he said, "when Van tells you to do anything, do it now."

"I will, from here on out," Hughie promised. "But that hole looked to

me like it didn't stop this side of China."

He missed Stecker's grin in the dark. Later, they rolled across the yard and pulled some empty stock cars out of the spur. They began to make up two branch locals.

"We'll be piling them in," Van warned bleakly as they shoved the cut into an empty siding.

Hughie swung to the top and the cars slid into the gusty dark. He peered ahead at the flock of red and green lights dancing through the rain. He couldn't guess which one he was aiming at, and he had better not check till he was sure.

He rubbed the rain from his eyes, and then a switch light dodged into his path almost beneath him, and he wrenched a brake-wheel with muscle and weight. If he split a switch after all his errors, he surely wouldn't be allowed to finish a night's work. The cars ground to a stop, but he had crowded a little at the end of a siding.

A dull mumble came with the wind as the vague bulk of another cut loomed down the parallel siding. Hughie went over the side and sprinted back to meet it. He slipped on the wet rung to the top, bumping his chin and banging his lantern. He tied them down alongside the first cut.

The yard goat raged about, snatching cars from here and there, casting them at him with an accuracy that brought them to a gentle coupling with the two growing strings. They came in ceaseless streams. It kept him jogging back and forth across the sidings to set the drawhead knuckles and to see that they locked together. He tried not to miss a coupling so the engine wouldn't have to come back and tighten them up. The cars floated to him like ships in a fog.

His boots were wet and heavy. The drive ebbed from his hollow legs and the empty crawl began to gnaw his stomach. It was past time for the midnight lunch, but the cars continued their steady drift down the sidings.

Anyhow, there would be no lunch for him—he was broke, in fact—but he did want a little rest and some drying out while the others ate theirs. He had to be more alert and efficient. If he did a good job for the rest of the night, they might overlook his initial errors and try him out longer.

BACK HOME, from the high bank above the railroad yard, he had learned to read the switchmen's signals before he knew his second reader. Smells of engine smoke and steam had created bright hopes in his mind. But it takes more than a hankering to turn your fancies into reality

The engine came down to him now, and Stecker signalled him to get aboard. The kid huddled against the boilerhead as they rolled across the yard. They dipped into a siding and pulled out six cars that were on top of the four they wanted. They made a drop of them, and Hughie set the brakes as they moved into the clear. He slid quickly over the side to reach the ground in time to catch the goat as she ran back in.

Maybe doing without food clears your thoughts, up to a point, but it also takes the spring out of your knees. The iron rung on top was crosswise of the corner instead of parallel with the side. When it was so set, there had always been a ladder down both ends and the side. Hughie went over the edge in a turning skid. His foot was rigid to catch the ladder below, but his toe scraped the side of the car without obstruction.

In the second before he reached arm's length he knew there were no steps down the side! There was a ladder at the *end* of the car only. His left hand caught under the top rung, and in the instant he realized there was no ladder below him, he set his grip and crooked his arm to ease the force of fall at the elbow.

The wrench, as his arm extended across the roof, nearly parted it at the shoulder. His hand, caught under the rung on top, shot full of hot needle points.

Pain traversed his rigid arm and dribbled down his body. It forced him to swing over with his back to the side of the car, and any move he made thereafter tore his forearm on the edge of the roof. He braced his heel and tried to twist his body toward the corner, but he couldn't turn an inch on the cutting axle.

The yard engine rolled toward him down a parallel siding through rain and smoke. If he didn't hold till it passed he would drop and sprawl out in its path!

The edge of the roof bit into his forearm, and his wet mitten began to slip through the deceptive rung. He hadn't quite enough courage to hold on against the pain. His eyes fogged—the things they saw flickered in watery lines.

A spark of light streaked somewhere below. It came up the ladder at the end like a scared comet. It flowed in a swift flight without effort or interruption and swung over the top, above his head.

Someone came down on the roof. A hand dipped into Hughie's collar and released the sawing strain from his arm. The hand flipped him over the edge as easily as a fish sprung from a pool by a stiff rod. He lay still while the numbness died and the pain spread through him.

"Don't ever try to get down off boxcars without steps," Stecker's sarcastic voice drifted to him on the gusty wind. The boomer swung his lantern in Hughie's face. "Break anything about you?"

"No. I'll be all right when the circulation gets going."

"Don't ever *guess* where you're going to step," Stecker growled. "Look first!"

"It slows you up," said Hughie.

"You heard me!" the pin man yelled.

These two boomers got sore easy. They had been too much afflicted with counterfeit switchmen. After this last stumble they probably wouldn't bother with Hughie Lynn any longer than morning.

MEANWHILE, there was work to be done. They pasted the four cars onto a local, then circled and

picked up the cabooses and tied them on.

"I guess that does it," Van decided.

"Chow," said Stecker.

The foreman nodded.

"Come on, kid," Stecker invited. "We eat—"

"I—" Hughie choked on the wind. "I brought my lunch," he lied. "It's at the yard office."

"The boss buys grub on the first night a new man works this crew," Stecker said. "Let's go."

"The hell I do!" Van challenged.

"An old snake's custom," Stecker insisted, and flicked his lantern at the foreman.

Van said, "Oh." Then added, "But I don't buy you a sirloin."

"On the spot!" Stecker called to the engineer, and shouldered Hughie between them.

They slapped across the yard to the station. There was something away out of line here, but Hughie's numbed mind couldn't follow it. He would check it after he got warmed up and dried out. Leaning over the radiator in the station lunchroom, he let the heat draw aches from his body.

Van Ardle glanced at the kid, then took a second look. "Coffee!" he ordered abruptly. "Big and black."

The waitress, a saucy redhead, was talking to a passenger brakeman down the counter. She smiled into his upturned face. The brakeman's brass gleamed and his smart blue uniform was pressed in sharp edges. They paid no heed to the bedraggled switchmen.

Van said, "Coffee, please."

"Just a minute," the brakeman barked.

Hughie didn't see Van move, but the foreman suddenly stood beside Brass Buttons. Stecker slid off the edge of his stool.

"Speak when you're spoken to!" Van warned the brakeman, and then caught the girl's eye. "Three cups of coffee, please."

The redhead said, "Yes, sir," and headed for the coffee urn, but the brakeman truculently whirled his stool around.

Van purred: "Stay on your perch, polly, else you'll lose some of those brass buttons."

The brakeman looked down at his gleaming uniform and back at the switching foreman. "All right, snake," he agreed harshly. "Maybe next time you will have on your good suit. I'd be glad to muss it up for you."

"I'd be tickled to have you try," Van nodded, his bushy eyebrows contracting.

That is how switchmen and trainmen sometimes agree. Leisurely, Stecker got back on his stool. Hughie gulped his cup of Java.

"Hey!" Stecker's protest plunged through to him. "What's the hurry? The longer we take to eat, the more spot we get."

That coffee had a wallop. Hughie's senses took hold again and he ate the rest of the meal with a relish.

GUSTY SLEET, like spent bird shot, scratched the kid's face. The cold made his wrenched arm ache. But he could bend his knees again and lift his feet.

"There's the hotshot pulling into the yard now," Van said, squinting through the swirl.

They climbed into the cab and the yard goat clanged down the siding. The long time-freight dragged to a stop. The head brakeman cut off the locomotive and took her away to the roundhouse. An inspector went down the line of cars looking for bad orders, and a checker tagged them with colored cards.

Van followed along and then came back. "We'll be shoving cars into four different siding," he said, and indicated the switches from the lead. "We haven't much time. You'll have to keep moving."

Another yard engine began working at the rear end of the time-freight. Van and Stecker teamed like two fine gears meshing smoothly. The two engines worked in a fury, crowding each other on the lead, scuttling out of each other's way. The wind steadied and drove the sleet in slanting volleys. Four sidings to cover, and the slippery footing, began to wear Hughie's legs down again.

Van was dexterous with cars. He could figure instantly the quickest way to distribute them and he kept them rolling down the sidings.

The other goat shoved a tanker onto a string that had built up almost to the switch, and Hughie coupled it on. Van was coming up the lead with a cut. The goat slid into a siding to go around to the rear of the time-freight. A Mikado type, running light, came down the lead in Van's face.

"Somebody will have to move over," Hughie Lynn decided.

Van checked his engine with a flick of the lantern, dropped off the footboard, and walked forward, waving the road engine down. Stecker was hanging to the rear of the cut.

The Mike stopped with a grunt of brakes, and the brakeman in charge walked forward into the glare of headlights. He was the same shack they had encountered in the lunchroom.

"Get back in the clear and let us through!" he ordered.

Van shook his head. "Back into that siding," he replied reasonably, "till I distribute this cut. Then I'll let you through."

"This is a passenger train's engine." Brass Buttons flared up, "and we've got a schedule to make."

It was a fine point of operating rules. Which should hold up the other: a first-class passenger train's engine heading out to take her run, or a yard goat lining up perishable freight to catch an early morning schedule? Hughie waited for the decision.

"Back up!" said Van Ardle briefly.

"You'd better get that goat out of the way," the brakeman warned. "It'll go bad with a yard crew that lays out a passenger train."

They couldn't tie each other up for the rest of the night to argue the point. The Old Man would take both scalps if they did.

Van walked past the man in a blue uniform and along the right side of the Mikado.

"Hey!" he called up to the engineer. "Tell this shack of yours to get you in the clear till I slip these cars in where they belong."

The engineer leaned a little from

his cab into the sleet. "Get in the clear yourself," he said. "I've got a passenger to pull, and we leave on time."

That was an eagle-eye sticking up for his rights. Hughie wondered anxiously if they didn't have Van stopped.

"Okay, hogger," Van nodded. "If you won't move, I'll do it for you."

The other yard engine was moving away. Van waved her down and brought her back to him. He conferred briefly with the foreman. Then the goat moved through the switch again and out onto the lead at the rear of the big snorting Mike.

Van snapped at Hughie, "Cut off your engine and bring her up here!"

Hughie jumped. He ran back and uncoupled his switcher from the cut of cars and brought her to the pilot of the Mikado. This was going to be something the Book of Rules didn't tell you about.

"Couple onto him!" Van directed.

Hughie signaled and his engineer inched forward to a coupling. The two locomotives glared into each other's eyes. The second yard engine was coupling onto the rear end.

"All right," said Van. "Shove him back!"

THE EXHAUSTS of the two goats stamped resolutely. The Mikado's engineer slammed the air-brake valve handle over to emergency. Couplings grumbled.

Van's lantern signaled impatiently, and the two yard goats went for the big road engine like barking terriers. The stacks blew off in ripping explosions and blasted streams of sparks into the driving sleet. The Mikado groaned under the powerful thrusts of push and pull and her drivers howled as they slid.

The passenger engineer hung half of his length from the cab and bellowed: "If you flatten my drivers, you know what the Old Man'll do to you."

"Release your air, then," Van Ardle called back, and the brakeman yelled to his engineer, "Shove back at them!"

The runner ducked into his cab. He latched out the throttle an inch at a time. Finally he released the air and pulled the throttle wide.

The three stacks sprayed the wet dark with leaping sparks in a battle of power. The two low-wheeled little beasts ground their drivers into the sanded rails and blasted. The Mikado's high wheels slipped and churned.

Fire flickered from the rails as she raged like a mad bull. But she couldn't hold against the power of the stubby goats built for pulling. They forced her back steadily. Something was like to give way under all that pressure, and flattened drivers have to be explained.

At length the road engineer gave up. "I'll get in the clear, but the Old Man's going to hear about this."

"Cut off your engines and clear him!" Van ordered bruskly.

The brakeman opened the switch and signaled his engineer into the siding. Then he crossed over to Van Ardle. A cold crawl traveled down Hughie's spine, and it wasn't the March wind. That brakeman's eyes darkened with rage.

Sleet whipped across the path of the headlights. The brakeman's long slicker had the sheen of polished black metal. The road engine's bell tolled and then was still. Hughie moved toward the two.

"Twice in the same night is once too many," the brakeman said. "Here's where I knock your block off."

Van looked at him. "Don't be a damn fool!"

The brakeman took a quick step and swung his lantern backward over his shoulder. In stride, Hughie

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till he felt the grit of cinders beneath. Then he lunged.

His wrenched left arm wasn't of any use. He threw his right side under the swinging lantern into the brakeman, and brought his shoulder up under his chin as they came together. The brakeman hit him once in the ribs. Hughie skidded and dug a toe into the sleet underfoot sprawled. Blackness engulfed him for a brief instant.

Then a shadow flitted into the pale light and blended with the reeling figure of Brass Buttons. Hughie got up carefully. Stecker held the brakeman by a hitch in the collar of his slicker.

"Let him go, Lou," said Van, and Stecker let go with reluctance. "Tie onto your cut and get it into the clear," the foreman added.

The driving cars began to loom again like great beasts against a ghostly sky. The brakeman had hurt. Hughie's skin felt like a wet sheet wrapped tightly about him. He stumbled once over the rails. The sun must be coming up somewhere behind those low clouds.

AT LENGTH, cars stopped rumbling through the sleet. They were done with the time-freight. The night yardmaster stood by the engine talking with Van and Stecker. One of the items discussed would be himself, Hughie decided, and he couldn't help drawing near. He knew he hadn't done well at all. Those tough boomers wouldn't tolerate a punk who made so many mistakes. But you couldn't help hoping.

The night yardmaster glanced up. He motioned for Hughie to follow, and turned up the yard toward the office. The kid dragged his feet.

From as far back as he could remember, the yard office held magic for Hughie Lynn. But now, in the gusty dawn, it was stale and lifeless. The yardmaster pawed his disorderly desk and a rusty pen screeched out the order.

Hughie stared at the white slip. He couldn't make it out in that light.

"Van says likely you did something to your arm when you missed the steps on the boxcar," the yardmaster said. "Those Southwestern cars, I guess, are the only ones that haven't got a ladder down the side when the rung on top is set crosswise. It fools lots of switchmen.

"You take that order to the company doctor and let him check your arm. You'll have to get a release from him when it's all right for you to come back to work. Telephone this afternoon whether or not he'll let you come on tonight, so we can protect your job." His eyes lit up. "Van says you hesitated only once about riding them down that dip track. I've seen oldtimers refuse it altogether the first time in the dark."

Hughie was somewhat confused and very tired. But he gathered that he was not being fired. He thanked the yardmaster, collided with the door and fumbled his way out. Van and Stecker were coming up the platform. Stecker's voice was loud.

"Yeah, you're so damned positive about things, Van. But I'm telling you that shack was hostile. The kid was right to stop him."

Van Ardle grunted. Stecker caught sight of Hughie and grinned. Then: "That's all for tonight," he said. "On the spot, switchman!"

A slow glow ignited under Hughie's ribs. He probed eagerly for the cause. The warmth got into his befuddled brain and cleared his thoughts. *On the spot, switchman!* That was his degree! Stecker had given him the accolade. If the durable pin man said he was a switchman, that settled it.

"Say, boss," Stecker wheedled, "how's to loan your crew ten bucks apiece till pay day. I'm fresh out of eating money, and your fielder ought to be if he ain't."

Van fished out a wallet.

"Look at that roll," the pin man gloated. "I ought to've asked for more." He held out a bill to Hughie. "We gotta buy our own grub till there's another change in the crew."

"Thanks," spluttered Hughie. "I—"

"See you tonight," Stecker said as the two oldtimers moved off.

The sharp sting of coal smoke bit the wind. Hughie listened to the slow beat of the exhaust as a locomotive snaked a drag and the burst from a stack as another goat kicked some cars free. Rolling wheels muttered on dripping rails. He lifted his feet proudly in the swagger of a switchman. ●

Answers to Quiz on Page 56

1. Power applied at the brake shoes through leverage, and the pressure on the air piston to stop wheel rotation.

2. *The Best Friend of Charleston,* in 1830.

3. 21,000.

4. Aug. 16, 1851, from Laprairie, Quebec to Rouses Point, N. Y.

5. Exercising your seniority to get another man's job.

6. In 1854, between Philadelphia and New York, on the Pennsy.

7. Abel Welch, in 1865.

8. The British definition of a locomotive truck.

9. Yes.

10. The Southern Pacific, at a point near Salton, Calif., is 199.2 feet below sea level.

11. Wale oil.

12. Always before coming to a stop, to allow the gears to disengage.

13. Eli H. Janney, in 1868.

14. The Carrollton Viaduct, on the B&O, built in 1829.

15. On freight cars, engines, tenders, and passenger cars in mountainous sections.

16. Voluntary contributions made directly to the organization or through Community Chests.

17. The free time allowed to a consignor or consignee for loading freight.

18. About 1,500.

19. It is smaller, but the principal of operation is the same.

20. The *John Bull.*

Railroad Rimes

The Hills of Arkansaw

THE NIGHT was damp and chilly,
The dawn broke cold and raw,
To find a freight train battling
The hills of Arkansaw.

All night they fought and struggled,
And now into the day;
And still that much-sought terminal
Was forty miles away.

The fireman deftly flipped his scoop,
Looked in the roaring maw,
And thought he saw reflected there
The hills of Arkansaw.

The hoghead dropped 'er down a notch,
Fire belched from out the stack.
The head shack smiled; the taller cursed
And rubbed his aching back.

A lung pulled out, the brakes clamped on,
Loud curses filled the air.
It sounded like some poor lost soul
A wailing in despair.

The hog law had 'em by the neck;
They fought it to a draw;
But now they'll have to stop and rest
In the hills of Arkansaw.

—*R. M. Bomham*

Abandoned

THE OLD branch line with its rusted rails
Wends on through the ancient hills:
The shadows creep as the sunlight fails,
And the calls of the whippoorwills
Sound in the thicket where verdue lies,
Shading the green of the grass-grown ties.

The night is born, and the stars awake
While the moon ascends the sky;
A ghostly wind stirs a lonely lake
The wail of a loon's weird cry,
And the vines creep up to the broken door
Of a station where man will come no more.

Midnight and hush—then a phantom roar
And the note of a ghostly bell
And an eerie whistle, while pistons pour
Their wraths of steam . . . The knell
Intones again . . . past the stunted pine
The ghost train rolls on the memory lane.

—*Olin Lyman*

Ghost Train

THE MOON was white in a star-burned sky,
But down where the railroad track
Runs close to the swirling river's bank,
The shadows were thick and black.
Thick and black, and who could see
Those watery fingers feel
And claw and tear beneath the ties
And under the shimmering steel.
Engine and train and lone caboose
Into the river slid;
For only the heedless moonlight saw
What the shivering shadows hid.

And now when the stars are pale and wan
And a wild white moon rides high,
Her headlight flinging a pallid beam,
The ghost rumbles by.
And the man who hears her exhaust that sounds
Like rain on cold grave stones,
The sob and cry of her rusted rods,
Or her whistle's watery moans—
He knows the ghost train is calling him,
That the time for his run is due;
The Great Dispatcher has marked him up
As one of the phantom crew!

—*A. Leslie*

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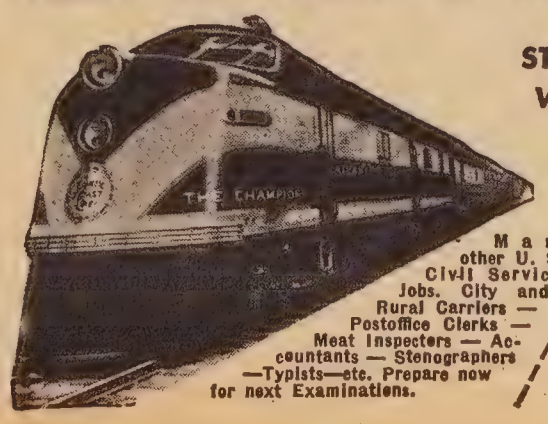

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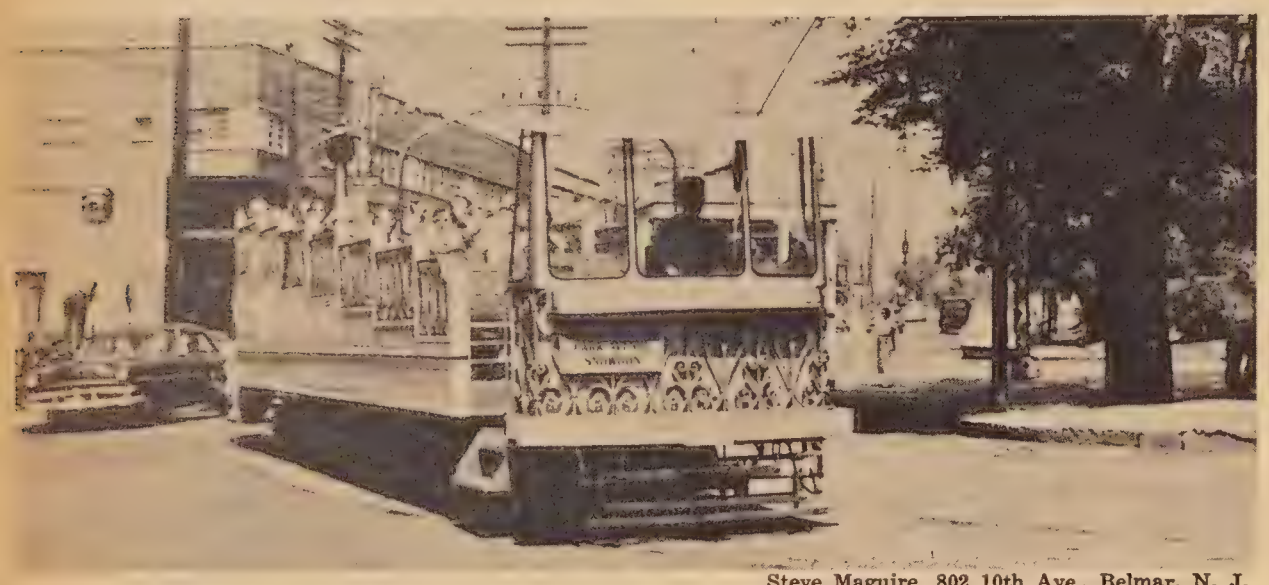
A picturesque tourist route is the Enoshima-Kamakura-Kanka line in Japan.



Steve Maguire, 802 10th Ave., Belmar, N. J.

Montreal's *Golden Chariots* will continue in operation, maybe until 1960.

On the Isle of Man you can see the only interurban-type trolley line in the British Isles, the Manx Electric Railway. Below are cars 1, 59, and 32.

J. H. Price. Light Railway Transport League (see page 68)

TRANSIT TOPICS

by STEVE MAGUIRE

ONE Canadian streetcar line that has never known rumors of abandonment is the former Quebec Railway, Light & Power route between Quebec City and Ste. Anne de Beaupre. This line is now being operated by the Canadian National as its Montmorency subdivision, but the equipment still bears the original lettering.

Steve Maguire

Oddly enough, the Quebec terminal has stub switches on all tracks. Those outdated relics were to have been replaced a year ago but the proposal to relocate the interurban yard onto CNR property at Parent Square has delayed the change. City officials want the Post Office moved to the present location of the trolley terminal, and if this is done a new terminal will be built on adjacent CNR property.

A Canadian railfan, Jean Leclerc of Levis, Que., tells us that the new linecar on this route, No. 69467, came from the Montreal & Southern Counties Railway and is the only piece of equipment sent to Quebec. This car was repainted boxcar red, electric heaters have replaced its old coal stove, and trolley wheels such as all other Quebec cars use replaced the time-worn carbon shoe collectors.

MONTREAL'S four *Golden Chariots,* the only open-topped sightseeing trolleys left anywhere, have received a new lease on life. No longer do you hear talk of their being taken out of service, even though the St. Catherine Street line was "bussed" last September.

Removal of rail from that street broke the cycle of the *Chariots'* ten-mile journey around Mount Royal, as a result of which the Montreal Transportation Commission made tentative plans to retire the four cars. But before this could be done, the Commission wisely gave the matter a second thought. They realized the popular ap-

peal of those unique cars and the passenger revenue they brought in at 50 cents a head.

Says Publicity Director Saint-Pierre of the MTC: "The four observation cars are no longer due to be retired this year. Although they cannot operate on St. Catherine Street, it is thought that we can still run them along their familiar belt line route north on Bleury and west through Outremont to Snowdon and Girouard Street, south on Girouard and west on Sherbrooke to St. Antoine and then back east to Bleury.

"Nothing is definite yet, but it is understood that these celebrated trams will be operated on some kind of a route, or kept for special duties as long as there are tramways in this city. This may be as far away as 1958 or 1960."

Once buses were in operation of St. Catherine Street, Montrealers found out what so many others in "busted" cities have learned: they still can't beat the trolley's speed, and their diesel fumes pollute the air.

W. S. Logan, Meaford, Ont., Canada, sends us a newspaper clipping from the Montreal *Herald* that tells how a reporter "spent an hour and a half traveling some five and a half miles on a MTC bus—just one-half hour longer than it had taken to cover the same route at the same hour the prior Thursday in an 'outdated' tramcar!"

Fortunately, the *Golden Chariots*, filled with tourists, are likely to continue rolling as long as the city has car tracks, maybe until 1960. These cars, painted cream with gilded railings and trim, brightly lit at night,

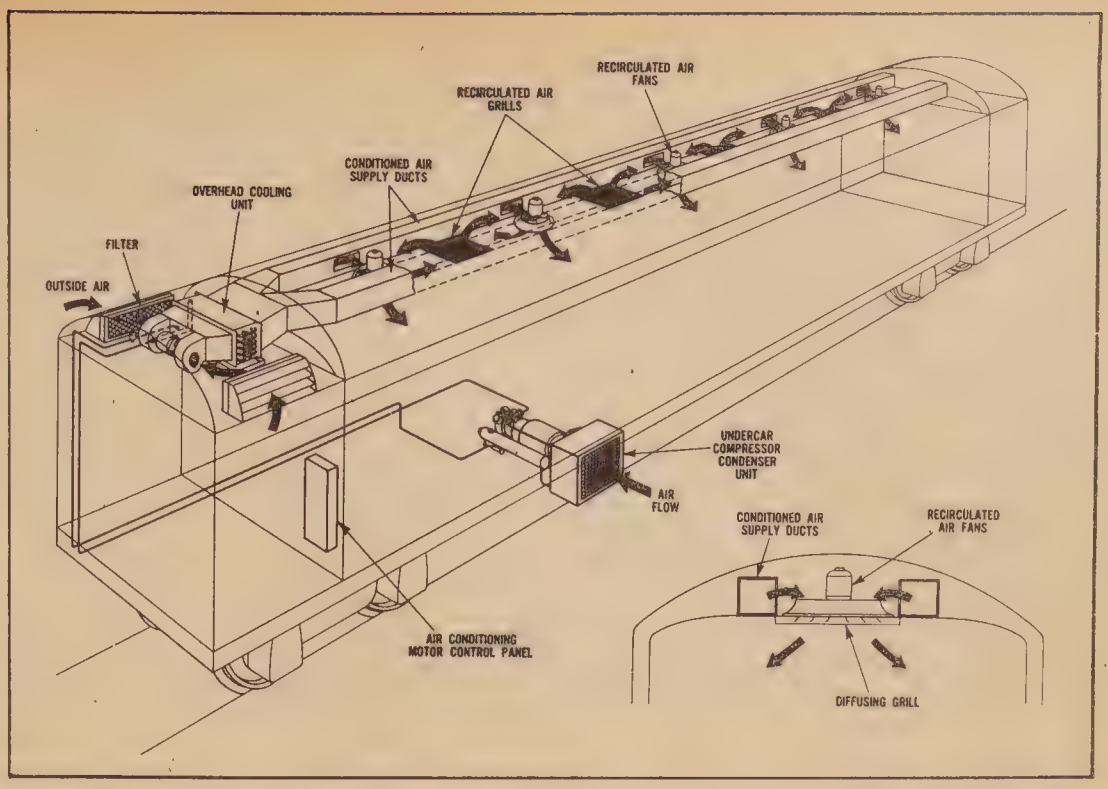


Diagram shows air-conditioning system in 50 new subway cars that are being built for the Hudson & Manhattan. Humidity is harder to conquer than heat.

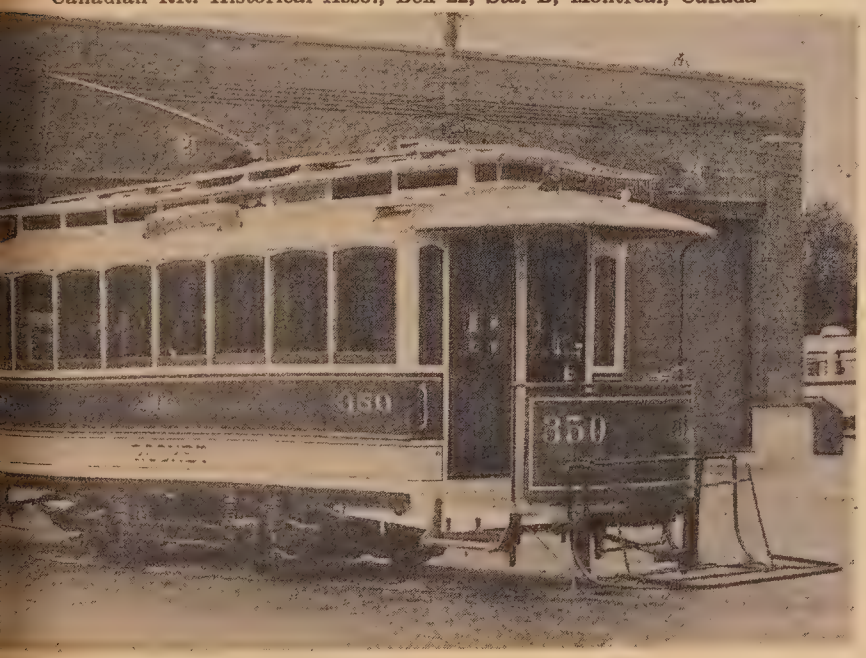
were built in the company's Youville shops by David E. Blair, chief engineer —No. 1 in 1905, No. 2 a year later, and 3 and 4 in 1926.

MONTREAL & SOUTHERN COUNTIES was scheduled to be converted to buses last April 29, but the bus company was not prepared to take over at that time and so the interurban line gradually wasted away under a skeleton staff, with its once-fine cars near the breaking point.

In July the M&SC gave up 1500 feet at the end of the Montreal South line, including the loop, because the St. Lawrence Seaway construction needed that much of the interurban right-of-way for a motor highway. The M&SC has given many cars to fans and museums for preservation. They felt that the money they made from railway charges in sending away those cars justified the donations.

AIR-CONDITIONING of underground cars is fast becoming a necessity. The 50 new cars that the Hudson & Manhattan Railroad is getting built at a total cost of more than $4,000,000 will be air-conditioned. Anticipating this change, the H&M experimented by

Two-car train at Branford, Conn. Upon arrival from Montreal, interurban 9 was led across river by freight motor.
Canadian RR. Historical Asso., Box 22, Sta. B, Montreal, Canada



First electric car to operate in Montreal, the *Rocket*, hit the rails September 21, 1892, and was retired in 1914.
E. J. Quinby, 308 W. 30th St., New York City

Cornelius S. Ward, 1997 S. Park Ave., Buffalo, N. Y.

Open car on "South Park Line" that ran between Buffalo and Lackawanna (then known as West Seneca), N. Y., stops to let passengers view excavation job.

having one of its now-operating passenger cars equipped with a new-type subway-cooling system devised by Pullman-Standard and installed by Trane Co., LaCrosse, Wis.

A demonstration run from the Hudson Terminal in Manhattan to Hoboken, N.J., was made for H&M officials and representatives of the New York City Transit Authority, the Metropolitan Authority of Boston, the Pennsylvania Railroad, Pullman-Standard, and Trane. After the 30-minute run, everyone on board seemed pleased.

The system is automatically controlled by thermostats to adjust to varying conditions of weather and carloading. It can move up to 5,000 cubic feet of air a minute through the car. This controlled breeze of cooled, dried air is the key to effective air-conditioning in a subway.

The system provides up to seven tons of cooling capacity, equivalent to the cooling effect obtained from melting 14,000 pounds of ice in 24 hours. Experts sum up the problem as follows: "It isn't so much the heat, it's the humidity that must be fought in subways."

O. R. CUMMINGS, who wrote "Trolleytown, U.S.A.," for the August '56 *Railroad Magazine*, has done a complete history of the Portland-Lewiston interurban, one of New England's few high-speed interurban lines, for *Transportation*, published by the Connecticut Valley Chapter of the National Railway Historical Society. The P-L story has 28 illustrations, including old timetables. Roger Borrup, Warehouse Point, Conn., is selling it at $1.50 a copy.

Another worthwhile history, just out, tells about the only interurban-type trolley line in the British Isles: the Manx Electric Railway, still operating on the Isle of Man with passenger cars, both the open and closed variety, some dating back to 1893! This unusual pamphlet may be had from the Light Railway Transport League, 245 Cricklewood Broadway, London, N.W. 2, England, at 35 cents a copy, payable with international money order, issued at all post offices.

Also available from J. H. Price is 22-page story of the unique Douglas Bay Tramway, a horsecar line still operating on the Isle of Man and meeting the Manx Electric Ry. trains. Issued to commemorate the 80th year of operation of this, the last horsecar line in Europe, the brochure is rich with information and pictures. Price: one shilling—send 26 cents by international money order. All profits from the sale will go to the Light Railway Transport League's fund for the preservation of streetcars.

DENYING a reader's claim in a recent issue that "as soon as the Illinois Terminal Co. quit interurban passenger service it scrapped all but one of its electric locomotives and all its line cars," Elliott Kahn, 225 E. 73rd St., New York City, says: "Several ITC cars and locomotives are still around. Car 241 is now in the Museum of Transport at Barnett, just outside of St. Louis, Mo."

RESPONDING to our query of interurban lines hit by tornados, J. H. Cossey, Olive View, Calif., tells us that the crew of an Oklahoma Railway interurban car on the El Reno-Oklahoma City run saw a tornado approaching and sped on without stopping until they were out of its path. Then they called the Oklahoma City dispatcher and warned him of the oncoming twister.

Max Wilcox, Elyria, Ohio, writes that the Lake Shore Electric was crippled by a tornado June 24, 1924, and put out of business for ten days. At Lorain, poles and wires came down and several city cars were overturned. A line to Beach Park was so crippled that it was abandoned and never rebuilt.

Max also reports that former employes of the Lake Shore Electric and the Cleveland & Southwestern hold annual reunions. LSE men usually meet the last Sunday in June at Sandusky. C&SW oldtimers gather at Chippewa Lake in August. Max attended the last C&SW reunion and displayed photos of the line in its hey-day.

Other Ohio interurban lines whose former employes hold annual get-togethers were the Northern Ohio Traction and the Columbus, Delaware & Marion.

William Overholser, of Springfield, Ohio, says that ex-employes of the old Ohio Electric (which later became Cincinnati & Lake Erie) also meet yearly.

MAX WILCOX tells of a man named Rob Nichols applying for a conductor's job. The superintendent refused to hire him saying, "We've got too many conductors now who ought to have that name."

"KEY SYSTEM is most disappointing as a rapid transit route," writes J. William Vigrass, 1494 Cohasset Ave., Cleveland, Ohio. "Top speed is 37 miles an hour, automatically controlled, but actually, once the cars get off the Bridge Authority property, they rarely exceed 25. After passing 40th and San Pablo streets, the line is simply a streetcar route, except for a few portions of former Interurban Electric track that is on the right-of-way.

"Although the track is terrible, the long units ride remarkably well. The

Key System units look modern, but don't forget that one-third of them were rebuilt from 1917 vintage cars, another third have underframes, trucks, and motors from 1909 models, and the remainder were built new but needed old-style motors and controls in order to be able to run in MU, with the rebuilt equipment. As a result, all Key System cars have a low top speed and poor acceleration.

"With even a modest expenditure, the system could be put into reasonably modern condition, but this is unlikely under the present National City Lines management. This management has already applied for permission to abandon the whole bridge-train system."

"SEVERAL years ago you conducted a poll to find America's longest streetcar line, the winner the Broadway-State line here in Chicago," writes Jim Farrell, 2342 N. Karlov Ave., Chicago, Ill. "Since one-half of this route is now 'bussed,' which line is the present champ?

"Last June, shortly after buses had replaced the PCC cars, I took a ride on the southern end of Western Avenue line here to check the riding quality of the buses. Anyone who wears eyeglasses or false teeth better keep off the buses, for the riding is rough. The buses couldn't make the time of PCC cars, so I presume that by now the CTA has lengthened the schedules."

Two lone streetcar routes are left in Chicago: No. 36, Broadway-State, and No. 22, Clark-Wentworth. They have about 50 miles of track in all, but even those are likely to follow the trend to gasolinization in the near future.

"YOUR READERS know of San Francisco cable cars," says Roger Breslow, Providence, R. I., "but how many ever heard of the old Providence, R. I., cable line, the only one in New England? Opened in 1890, the Providence Cable Tramway Co. operated the line on a 15 percent grade up College Hill, where at the top riders could take a horse-car to the Seekonk River. Cable cars made their way up and down the hill for 24 years without an accident. In August, 1914, at the beginning of World War I, the East Side tunnel under the hill was opened, thus ending the need for cable-car service."

WASHINGTON, D. C., trolley and bus lines are now being operated by District of Columbia Transit System, subsidiary of a New York investment firm that purchased the Capital Transit Co. interest for $13,500,000. The CTC was forced to sell out when its franchise was revoked during a prolonged strike in the summer of 1955.

Under the agreement with the District of Columbia Commissioners whereby the new firm took over, they were forced to agree to convert the system to all-bus within a seven-year period of operation. The commissioners paid no heed at all to public protests against future bus service.

HARRY RIDGWAY'S true tale, "I Was a Dispatcher for Five Minutes" (Oct. issue), pleased H. L. Danielson, 332 Forest Ave., Jamestown, N. Y., because he often rode the now-abandoned Jamestown, Westfield & Northwestern.

"William Pickard, the road's last general manager, was my wife's uncle," he writes. "The snowplow Ridgway mentions could not have been car 305. Baggage cars 306 and 307 were fitted with plows. Sometimes Chautauqua Traction line car 111 pushed a wedge plow ahead of it. Last I saw of the wedge plow, it was rotting away on a Ft. Stockholm siding.

"The only car intact, No. 305, is now used as a diner on Washington Street, Jamestown. All the cars were originally painted black but in 1915 were repainted bright red, each time with gold lettering. The one pictured on page 82 had been painted red years before the photo was taken. I know that, because you can see an air horn, which was not added until after 1925.

"Cars 301, 302, and 303 were used in regular service with 304 and observation car 312, in specials hauling picnic crowds to Midway Park on Chautauqua Lake. Car 304 was wrecked in a head-on collision with 301 at Curtis stop, killing Motorman Hoadley and injuring several children. No. 301 was rebuilt, 304 junked.

"A big side-door car, 309, was wrecked by an Erie switch engine at the boat-landing yards. It was found that the motorman had died of heart disease just before the crash. The 309's trucks were used to build 500, the road's most powerful motor. No. 310 became a semi-automatic substation at Greenhurst; the same happened to 311 at Mayville. Car 312 was junked with the rest." ●

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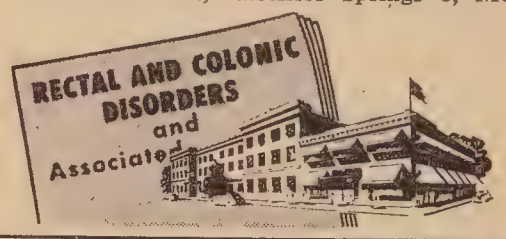

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Typical of Stephen D. Maguire's photography is Waterloo Railroad car No. 100 on an Iowa fantrip. Steve, who is a member of our staff, served as the technical editor of *Trolley Car Treasury*.

BOOKS of the RAILS

by P. C. GRAVES

TROLLEY CAR TREASURY, by Frank Rowsome, Jr., and Stephen D. Maguire, (technical editor), McGraw-Hill Book Co. Inc., New York. 200 pages completely illustrated, $5.95.

For those of us who loved the trolley car in its palmy days this vivid and authentic book will bring back memories. For a newer generation it will be a revelation, a feast of Americana. The cars that have gone from among us played a vital part in the nation's past, socially as well as economically, since they shaped communities and molded our folkways.

From the earliest days, as Rowsome and Maguire point out in words and pictures, open cars were summertime favorites that carried people to that exciting by-product of the electric lines—the amusement park, with its weird and wonderful diversions. In this non-air-conditioned era, young lovers would climb aboard and ride out to the country, singing songs and enjoying a way of life that passed all too soon. This casual carrier fostered a whole new method of courtship, and saved many a young blade the rental price of a horse and carriage.

Streetcars have always shown a remarkable capacity to generate emotion, mostly on the happy side. But there were times when they took on a hostile form. In the days of the horsecars, teamsters took a dim view of this form of transportation, and when electric power replaced animals, a segment of the population feared the juice they generated, almost to the point of superstition. But timidity and jealousy soon turned to affection, and the trolley became a national institution.

In this carefully researched book, Mr. Rowsome gives full credit to the pioneers who brought about the Golden Age of the trolley car—especially Daft, Depoele, and Sprague.

Many pages of pictures and colorful text are devoted to the cable car, which was so typically American. San Francisco was the first city to have it and will be the last to relinquish this novel form of transportation.

A section of the book, called "The Trolley Triumphant," depicts the brief dream world of the plush parlor cars, and the interurbans which carried baggage and mail. Some of them could make up to 80 miles an hour on a smooth roadbed! The cocky quality of these big electrics was in keeping with the times, and such names as *The Crimson Limited* and *The Wabash Flyer* were typical. They grew and prospered for a while until the gasoline era put the time-honored streetcar on the defensive. New tastes, a changing economy, and the introduction of the "family car" made trolley-riding seem grotesque and grubby to most people. Line after line went into receivership, and the downhill pull was inevitable.

The dwindling companies made a gallant effort to combat rising costs and competition with the sleek, fast, modern lightweight PCC's. But, in the opinion of a motor-obsessed age, those beautiful cars were outmoded even before they hit the rails . . . a sorry *Götterdämmerung* to a happy and colorful era. Others of us know, however, that PCC's are still doing a mighty good job in several big cities, and a fair-sized number of people still love them.

Mr. Rowsome, ably assisted by our own Steve Maguire, has covered a century of the American streetcar through all its phases. No segment of its colorful history has been overlooked, from the Toonerville Trolley that made a cartoonist famous, to the trolley songs that made Tin Pan Alley rich. This gay tribute to a passing era is packed with folklore, complete with anecdotes, and more than 300 photographs.

Trolley Car Treasury is beyond question the greatest book of its kind ever published—far ahead of Miller's *Fares, Please!*, which came out many years ago, and the wealth of illustrations adds immensely to its value. We could think of no better Christmas gift for juice fans to give or receive.

WHEN McQUEEN WAS KING, by Harry D. Lyons, Vantage Press, 120 W. 31st St., New York, 309 pages, $3.50.

The story takes place in the prairie country during the peak of railroad expansion. It is packed with action, but readers who turn to it for a rich fund of information on locomotive builder McQueen, his plant, and his famous engines will be frustrated. There just isn't any. The author fired for years on the Milwaukee Road. (See page 52)

THE FIRST QUARTER CENTURY OF STEAM LOCOMOTIVES IN NORTH AMERICA, U.S. National Museum Bulletin 210, by Smith Hempstone Oliver, Smithsonian Institution, Washington, D.C., 112 pages $1.

Thomas Norrell's introduction catches the flavor of this book. "At midpoint of the 20th century," he writes, "the curtain was falling upon the final phases of steam locomotive operation in North America. It had become obsolete and its days numbered. To the everlasting credit of our forebears some relics of early engines have been preserved, and

the author has brought them together in the most complete record ever compiled . . ."

Beginning with the *Stourbridge Lion* (brought from England in 1828), Mr. Oliver traces the rise and fall of the steam engine in North America. It's a worthwhile reference book, with many fine illustrations of models and operable replicas from the Smithsonian Institution collection.

THREE LITTLE LINES (Rails Among the Peaks) by Josie Moore Crum, published by Bert Parker, 309 Northwestern Bldg., Minneapolis, Minn., 53 pages, limited edition, $1.50. (First appeared as Bulletin 74, Railway & Locomotive Historical Society.)

In the 1880's the area around Silverton, Colo., teemed with prospectors who had made strikes in silver, lead, and zinc. Three short lines were built to carry the ore over a spiderweb of steel that wound through treacherous mountain passes to form the most intriguing narrow-gage railroads. Here were steep grades, sharp curves and fantastic switchbacks.

The Silverton, The Silverton, Gladstone & Northerly, and The Silverton Northern have long since passed into oblivion, but Josie Moore Crum has brought them to life in her fascinating book. Every nostalgic detail is faithfully recorded, from the names of long-abandoned mines (Yankee Girl, Red Mountain, Paymaster, and such) to the oldtime locomotives that hauled the ore. The book has many good photos plus all-time locomotive rosters. (See *page* 31)

LIFE ON THE HEAD END, by P. M. Adams, Vantage Press, New York, 192 pages, $2.75.

Here are rousing tales of prediesel days in Canada—sweat and cinders, excitement and adventure. The author caught the railroad bug at an early age and wielded the "banjo" in engine cabs for hundreds of back-breaking hours before moving to the right side. A resident of Toronto, he contributes to many periodicals, including two short stories in *Railroad Magazine*.

THE AMERICAN RAILROAD NETWORK, 1861-'90, George Rogers Taylor and Irene D. Neu, Harvard University Press, Cambridge, Mass., 113 pages, $3.75.

Up until 1861, an integrated rail system was unknown on this continent because of gage differences which hampered through traffic. The book explains how this obstacle was overcome.

RAILROADS AT WORK, Association of American Railroads, Transportation Bldg., Washington 6, D.C., 39 pages. Free.

A picture book, keyed to the *Teacher's Kit for a Study of Railroad Transportation,* available only to teachers.

LIST OF PRINCIPAL RAILROADS IN THE UNITED STATES, Association of American Railroads, 16 pages. Free.

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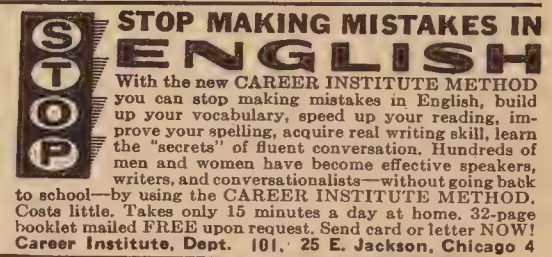
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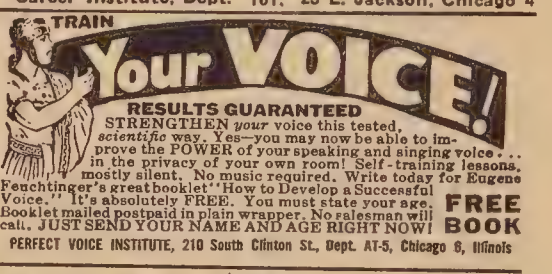
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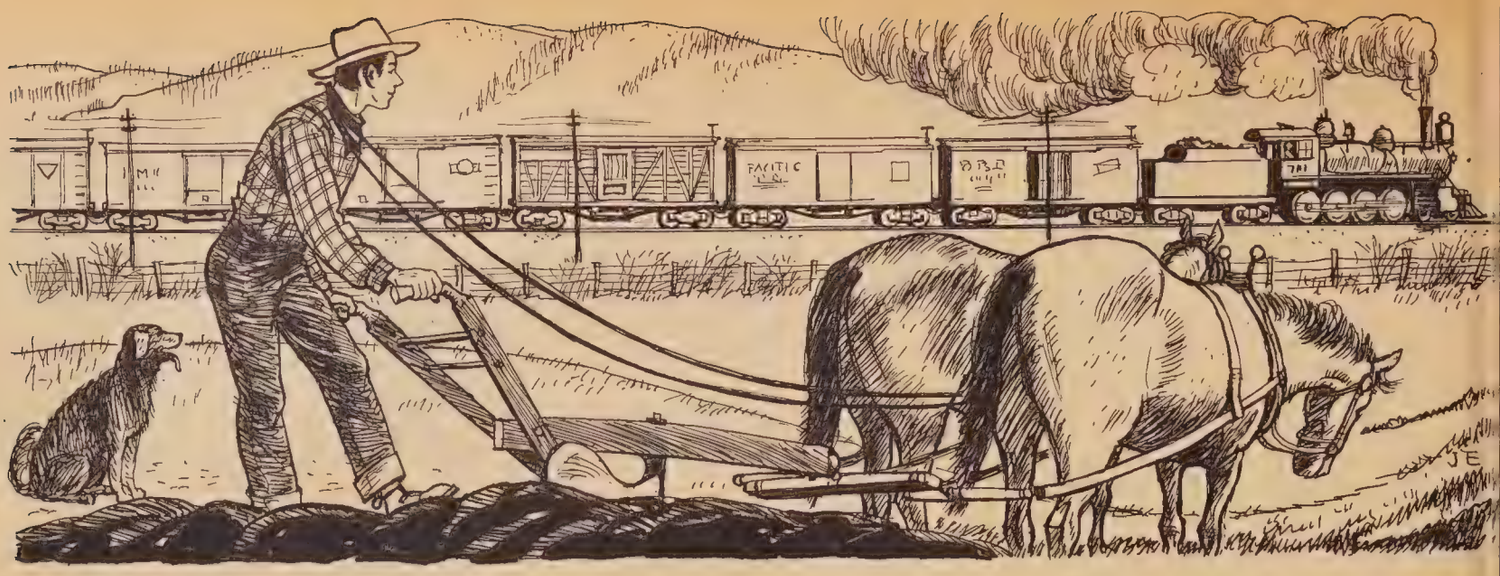

How I Began Railroading

A SYMPOSIUM

The Lonesome Wail of a Locomotive Whistle Lured Many a Bored Lad Away from the Farm to Seek Adventure as a Brakeman, a Fireman, or a Slinger of Morse

JESSE M. GRIGG

POVERTY-STRICKEN, a runt of a lad not cut out for hard work, and hating farm chores, I looked forward to the day when I could forsake the plow handles for the railroad.

My beacon of hope was the Jacksonville & St. Louis (now part of the Burlington Route), whose trains ran within sight of our Illinois farm. Those trains would stop at Durley for a passenger, set a car on the spur for hay loading, or pick up an order in the telegraph office.

Even when I was twelve, the clicking Morse instruments enchanted me, but not until April 1, 1903, when I was past sixteen, did Dad agree to let me become a student operator.

"You must learn in a few weeks," he warned, "or come back to the plow."

So I just had to make good. From morning to night I listened to the wires and jotted down every letter I could catch. The agent, John Livesey, wasn't much help. He told me to teach myself, and he spent most of his time at home, across the road, after instructing me to bring him when the dispatcher called.

By mid-July I was answering the dispatcher on my own. During the month which followed, Mr. Livesey stayed away altogether, while I carried on in his name for the ten-dollar gold piece he gave me as wages. At the end of August the company offered me the night trick at Virden, Ill., thus proving that I had qualified.

But instead of letting me go, Dad put me back in the country school. Having lost my chance at a job and expecting to forget Morse, I felt blue.

Three weeks passed. Then Logan Mills, agent at the mining town of Sorento, broke a leg. Desperately in need of a relief man, Dispatcher Russell sent Mr. Livesey to the schoolhouse to bring me, a mere kid, coatless and penniless, to the train which he held waiting. Thus I was hired for what proved to be more than five years continuously on the payroll.

Had Mr. Mills broken his leg one week later, I would not have been called; for in less than a week the management closed Durley station forever.

L. P. SANSCARTIER

I CUT my first teeth within hearing distance of the bells and whistles and thunderous exhaust of locomotives on the Grand Trunk main line at St. Henry, Quebec, Canada.

At the age of ten I enjoyed nothing better than to accompany my father when he went down to loaf and visit the switchtenders. This happened on Sundays. Every ten minutes or so a train or light engine would rumble through. I copied down their numbers in a small notebook.

When I was fourteen, the switchtenders' jobs were abolished, and the shanty where Dad and I had spent many happy afternoons was removed. But railroading continued to lure me. I spent many after-school hours and Saturdays around Bonaventure station. It was a busy place. Ninety freight and

passenger trains a day passed through there.

Depot employes began to notice me as I assisted them with milk cans and pushed heavily loaded express trucks on the long platform. Yes, it was hard work, but the fact that I was railroading—or so I thought—was all that mattered.

On Saturdays when I helped all day, the baggagemaster would give me a whole dollar. I'd gladly have done it for nothing, just to be near the trains, for I loved the click of cars over railjoints and the stiff breeze they evoked and the high sign that the crew gave as the little red cabin bounced by. And I loved coal smoke.

This went on for three years. My desire to become a full-time railway man kept growing stronger. Now close to fifty and looking back, I believe that those were the happiest years of my life.

Graduation came at last. The depot agent promised to get me a job. And he did! You can imagine my elation when I received notice to report for the night trick as callboy at the roundhouse. Thus I became a full-fledged railroader. Among other duties I had to call engineers and firemen and get them to sign a little black book as proof that they'd been notified. I felt honored to associate with these men, whom I regarded as heroes. My favorite engine was the 321, a ten-wheeler on a milk run between Montreal and Rouse's Point, N. Y.

Alas! I was on the Canadian National payroll but thirty-one months, this being my entire railway career, yet even to this day I am proud of having been a callboy.

T. ERNIE DAVIS

I FACED quite a predicament. Here I was, a "ham"—a student of two and a half months—substituting for a full-time job on the graveyard shift in a boxcar tower, only ten minutes before a fast passenger train had piled up less than half a mile away!

The regular operator under whom I was learning had suffered a sudden nervous breakdown, and I had to replace him. There would be many important orders and messages, with brass collars galore hanging around the wreck scene.

That never-to-be-forgotten midnight in March, 1903, gave me the exciting—and sickening—experience that turned me into a real operator. It occurred on the Frisco in Missouri.

On New Year's Day of that year I had gone to Jerome, Mo., and made an agreement with a brass pounder named Mack Leak. I longed to be a lightning slinger. Instead of toiling like a flunky around a station, like most beginners, I had to get fuel from the woods and chop, split, and drag it to Mr. Leak's home for use as firewood. The agent himself was not well enough to do this heavy work. Besides teaching me Morse, he gave me board and lodgings in exchange for my service.

Their home was just across the Gasconade River. The only route between it and the lonely boxcar job was over the railroad bridge. On this particular night, as we were trudging through the snow, we could hear oncoming the *Meteor*, Number 9, a short distance away.

Then a screaming whistle split the moonlit stillness. It was the hogger's unmistakable signal of distress. He wanted brakes. The helper in front had the air. Mr. Leak and I looked at each other fearfully.

"Nine's in trouble," I said.

"Sure sounds like it."

We waited at the east end of the bridge while the *Meteor*, at high speed, swished by with its human cargo. Then we stepped back onto the track, keeping our eyes glued on the two red marker lights as they dwindled in the distance.

There was a dangerous curve on the west side of the bridge. It flashed into my mind just as we heard a terrific crash. The *Meteor*, having lost its air, had piled up on the curve! Escaping steam hissed through the dark countryside.

Mr. Leak and I raced across the bridge. My heart throbbed. Passing the wreckage, we hurried to the boxcar tower.

By this time the operator was a nervous wreck. His hands shook so much that he could hardly light the oil lamps. It was up to me to handle the situation. That would mean eight hours of almost constant telegraphing. Maybe I wouldn't even get time to eat lunch. But I faced up to it. Cutting in on the dispatchers wire, I gave him a brief report of what happened.

That night I copied many train orders, messages, and hold orders to get the "big hook" to the wreck scene and a medical staff from Newburg. When the brass collars arrived they let loose another deluge of messages. I just had to keep going. By morning I was a much-improved Morse man. The job had given me self-assurance.

The most grueling experience I had was to hear the *Meteor's* conductor, Pat Crowley, report that his engineer and two firemen had gone to glory in the smashup.

Ten days later, I received official recognition for that terrible night's work—an order to report April 1, 1903, for my first day's assignment as a railroad telegrapher. The notification from Superintendent O'Hara enclosed a pass to Springfield, Mo.

As I look back over the years I see that three things started me on a railroad career—rustling wood, the wreck of No. 9, and Superintendent O'Hara.

JACK MAGUIRE

MY RAIL CAREER began over a lamb chop in the palatial dining salon of Katy business car 400—and the man who hired me was the chairman of the board himself.

I was born beside the Frisco main line in Denison, Texas, and the first sound I remember was the wail of a steam engine whistle. On my fifth birthday, my father, who was then—and still is—an engineer on the Katy's North Texas Division, took me for a ride in the cab of a yard goat. From then on, railroading was my way of life.

In college, I decided to write about railroads and railroad people, and so I went back to Denison as a reporter on *The Herald*. They let me handle the subject I liked best—local notes on engine and train crews, features about shop operations and trains, and finally, in 1943, a whole series about the Katy and its Diamond Jubilee.

Then, on August 15 of that year, I received a telegram from Lewis E. Pierson, chairman of the Katy's board of directors. Would I meet the northbound *Katy Flyer* that day and be his guest for lunch on car 400?

I would, and did. With him were Donald V. Fraser, then a minor executive who would soon become the road's president; M. R. Cring, the new director of publicity and advertising, and his assistant, "Scotty" Masterson.

After the ice cream and coffee, Mr. Pierson took off his pince-nez glasses and asked: "Have you ever thought of becoming a railroader?"

"Yes," I said. "For a long time I've

wanted to be editor of the *Katy Magazine*. If the job is ever open, I'm going to apply for it."

"It's open now," he smiled. "Effective September 15, you are the new editor."

And so I began editing the *Katy Magazine*, and stayed on that job until 1950, when I took over the editorship of *Texas & Pacific Topics*.

Today, I'm a public relations counselor and a railroad writer in spare time. To date, I've written a hundred or so magazine articles on my pet subject, not to mention a book, *Short Line Junction*—altogether, I'd say, a quarter-million words. But my favorite story is still this one about the business car luncheon.

G. W. WARD

LITTLE did I dream when I delivered a message from the drug store to the railroad station back in October, 1898, that I was on my way to a railroad career which would last for almost forty-eight years.

I was a teen-ager then and I delivered the message because in those days telephone service had not yet reached our town of Cromwell, Ind., on the B&O's Chicago Division. The agent, Charlie Fitzpatrick, read the telegram, spiked it on a hook on the wall, and asked: "Son, how would you like to be a railroader?"

Well, I hadn't given any thought to the subject, but the idea caught my fancy. I could feel my heart pounding as I shot a quick glance at the two clicking telegraph instruments. My glance shifted to the agent's desk, piled high with way bills and other papers. It was very confusing. All I could say was:

"What's it like, Mr. Fitzpatrick?"

He explained that I'd have to learn the Morse code of dots and dashes, which called for lots of study.

"If you make good," he added, "you might become a company official some day. Maybe even president of the road. More than one president has come up from the telegraph desk."

"I'll think about it," I said.

I walked home that dreamy fall afternoon with my mind in a whirl. Through the drifting red, gold, and brown leaves I could see myself copying orders and messages from the train dispatcher and drawing steady pay each month. My ecstasy was heightened by the fact that Mr. Fitzpatrick had picked me over several other youngsters of about my age, who had loafed around the depot and knew a little about telegraphy.

That evening I talked it over with my father. With his permission, I reported to Mr. Fitzpatrick the next morning and went to work in the depot.

My duties included running messages, seeing that the old pot-bellied stoves were well supplied with coal, taking care of the semaphore lights, sweeping out the building, and caring for the wet batteries. I also put in some hard study on the Morse code.

The next spring I regarded myself as a full-fledged operator, even though I was still somewhat of a ham. Anyhow, I went out for a man's job. But at that time jobs were hard to get.

Now and then I worked the extra board. Burning with desire to become a first-class telegrapher, I spent my spare time practicing at the Cromwell depot.

Early in the game I learned that a hogger and a conductor must not sign orders for each other. It happened one morning when the way freight, No. 33, on which Superintendent Batchelder was riding, prepared to leave Cromwell after doing a little switching. The agent asked me to go inside and see if the dispatcher had anything for 'em. DS was calling to find out when 33 would be ready to go.

"In five minutes," I snapped back.

"If he can get out right away," said DS, "I'll give him until 10:45 to make the east siding at Syracuse for No. 16."

I told him to shoot the order.

Later Conductor Herbert came to the open bay window and I shoved out the pad for his signature. "Put old Jake's name on it, too," I suggested, Jake being the eagle-eye.

The skipper hesitated. "Will they stand for it?"

"They'll stand for anything in a case like this," I assured him. So he signed the engineer's name also and handed me the pad.

Mr. Batchelder, who had slipped quietly into the ticket office and watched the proceedings, asked me if I was the agent.

"No, sir," I said. "I'm an extra operator keeping in practice."

The official scowled. "Is that how you do business?"

"Yes, sir, in this case."

I explained that every second counted. If I waited for the engineer to come and sign, No. 33 would not have time to make the east siding for No. 16. Then I added:

"If you want to go with the way freight, you'd better hurry. Old Jake will be wheeling 'em fast by the time the caboose passes the station."

The super reminded me that I just violated a strict rule. "But," he added, "it was a case where you used your head, and if you continue to do that you'll get along as a railroader."

CALVIN C. CRUM

THE LURE of high iron caused me to flunk spelling several times when I was in the sixth grade. You see, my classroom was located on the second floor of the high school at Portage, Pa., and while seated at my desk I could gaze out the window at the Pennsy's four-tracked main line.

I was fascinated when a long freight went barreling by and I day-dreamed of some day becoming a railroader. Hardly had the rear of one train died away before I began to listen for the whistle of another. Those ribbons of steel, fading into a distant curve, were beckoning to me.

My sixteenth birthday found me seated on the other side of the school building. This was a big disappointment; I could no longer see my beloved trains go by. After a while, several of my older schoolmates quit school and took railroad jobs. They urged me to do the same.

But I did not mention it to the folks at home. I knew they wouldn't approve. Finally, one April day in 1944, the urge was too strong for me to resist any longer. Borrowing 35 cents from a friend, I went to Cresson and hired out as a ballast-cleaning "mole."

After working a year, I went to Pittsburgh, where a man named John Collins took me on as a member of the rail-laying crew. That, I think, was the happiest day of my life.

When the crew and outfit were ready to leave from near Portage, I wrote a note and left it at home, being scared to tell my folks in person.

It was four months before I got back from the first road trip. I was just past seventeen and boasted to my friends and acquaintances about town how I had become a railroad man and traveled all over northern Pennsylvania and part of New York State.

Boy, how I loved it! I wouldn't have traded places with the President of the United States. I knew for sure that I had railroad blood in my veins.

It was a beautiful sight to me when a ten-wheeler hauling a long string of swaying cars rumbled by after our outfit had cleared up on a spur or siding for them. It made something swell up inside me to realize that I was a cog in the huge Pennsy machine.

A short time later, in 1946, exercising my bumping privilege, I joined a large welding crew. This was even more thrilling as we moved from one division to another, taking us into different states.

One day Pete Katic, our foreman, came up to me. Laying a gentle hand on my shoulder he said: "Son, I'm going home to work and I'd like you to have this job. So bid on it when it comes up."

I did so, and at the immature age of twenty-two I became foreman of a track-welding crew. Today, six years later, I have seventeen men working under me.

WILLIAM ELSEY

THE GRANDSTAND of the baseball park at Cairo, Ill., is an odd spot to begin making plans for a railroad career. Even so, that is where the idea took shape in my mind.

I was watching the game with a classmate. He pointed across the park to a freight train roaring down a grade toward the Illinois Central station. I saw a mixture of boxcars, oil tankers, hoppers, and flats. Puffy black smoke billowing from the engine was wafted across the house tops, spending itself among the trees. Even from where I sat I could see the steel rails glinting in the hot sun.

It was a stirring picture—so stirring that right then and there I made up my mind to go railroading. My fascination shifted into high gear when my friend asked:

"Do you see that semaphore signal beside the depot?"

I nodded. "Sure do."

"Well," he said, "in a few seconds the hogger will blow his whistle four times: if it is okay for the train to go through, the operator will pull a rope and lower that signal from a horizontal position. Then the hogger will acknowledge it by two whistle blasts and will go right by. But if the signal remains horizontal, he will wait for it to go down."

By golly, he was right! The train absorbed me so much that I watched it instead of the ball game. Afterward, I hastened to the depot and spoke to the telegraph operator, a man named W. A. Hobbs. I told him that I had decided to go railroading.

Mr. Hobbs showed interest. He even offered to teach me the Morse code and other station duties. In return, I agreed to throw siding switches, carry in coal, keep the pot-bellied stoves going, and handle a flock of other chores.

That started my great adventure. As a teen-ager, I felt very important as I moved the semaphore signal blade to let trains whizz by. I would wave at a fireman or engineer and then the conductor, listen to the rumbling cars, and smell the steam and coal smoke. It was very exciting.

Mr. Hobbs sold me a telegraph set on credit so that I could practice telegraphy at home. The price was only $1.50 but it represented a lot of money for a poor boy around the turn of the century. But since my family had a cow, we struck a bargain whereby I would bring him a bucket of buttermilk every day for a month. Buttermilk at that time was selling at five cents a bucketfull.

Mr. Hobbs and his brother, who was also an operator, taught me so well that I soon was able to take a telegraph job on the Illinois Central. That was in 1901. I still recall the joy I got from copying my first train order, alone.

I had quite a railroad heritage. My father was a boomer brakeman, fireman, switchman, conductor, and engineer. He'd gone railroading in the 1880's and was the first hogger to pull a train across the Mississippi River bridge at Cairo. It is easy to see how this family background had put me in a receptive mood for the big decision that afternoon in the ball park.

WAYNE E. McGOURTY

SHORTLY after I graduated from high school in 1937 and while I was visiting an aunt in Davenport, Iowa, my mother telephoned for me to come home at once and to work. I knew what that meant—a railroad job—so it didn't take me long to pack my grip and grab a Rock Island train.

My father was a "nut-splitter" in the Illinois Central shops at Waterloo,

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where we lived. The thought of working beside him made me very proud indeed. As I gazed out the train window en route home, watching the farms and brooks and woods and villages slip by, I visualized how manly I would look in a shopman's overalls.

My recollection went back to the many times I had hung around the shops as a small boy and been fascinated to watch the denuding of the sturdy 2-6-4-type locomotives. Back in Waterloo, I took a cue from Dad's twenty years of Illinois Central service and I bought three brand new sets of blue denim overalls and jackets, a cap or two, several pairs of leather gauntlets, and a pair of safety shoes.

These duds captivated me to such an extent that I had my picture taken in full regalia. Then I strutted around town in them, hoping to attract the pretty girls. They were not noticeably impressed.

Anyhow, having met the required preliminaries the week before, I woke up very early Monday morning, dressed myself with meticulous care, and reported for work. But the general shop foreman, Henry Klempau, disillusioned me.

"We don't need any shop apprentices," he said, "but the labor gang is looking for men."

Since I was fully rigged for work, I agreed to go into the gang. Being as green as a clear block at midnight, I was initiated into the new job. First I polished and cleaned locomotive side rods and main rods. Then I ran errands that made me wonder if I was just a messenger boy. I also hauled driver journals to the chap who did arc welding.

The high point of my short railroad career came one afternoon when three other laborers and I were ordered to put the side rods for a 1700 Class Mikado-type locomotive on top of the tank of an 1800, which was ready to be moved out. It was a hot mid-June day and those steaming engines standing around didn't add to our working comfort. But, by using a chain and grunting and sweating profusely, we managed to do the job.

I worked in the shops for only three weeks. Then my foreman handed me a little pink slip that said I was furloughed on account of reduction in the force. Well, other things came up and I never did get back. The wages earned in those three weeks didn't even pay the cost of my new work outfit. But I am proud to say that I, too, was once a railroad man. I am proud of it.

Today, by reading *Railroad Magazine* I live over those days and the thoughts of what might have been.

HAROLD K. VOLLRATH

WITH some trepidation, I seated myself across the desk from a Southern Pacific chief dispatcher, Mr. E. V. Chauvin. He looked stern and hard-boiled, but I don't believe now, many years later, that he actually was. Anyhow, the very thought of taking the exam for telegrapher scared me.

Mr. Chauvin asked a lot of questions about rules. Then he picked out a sounder from among the ten or twelve that were chattering merrily on his desk, told me to copy from it, and handed me a sheet of paper, I tried real hard to translate the dots and dashes into words, but I just hadn't had enough experience.

At length, in what seemed to be disgust, Mr. Chauvin made gestures indicating that the test was over. "Try again after you've learned how to telegraph," he said.

I was disgraced. Not only had I flunked, but I'd let down Mr. Feshke, the agent at Franklin, in the Louisiana town where I lived, since he had expressed his opinion to the chief that I was ready for an OS job.

Well, I felt so sheepish that I stayed away from the Franklin depot for a while month. But when Mr. Feshke learned what had happened, he sent word that I should return to the station and practice some more. I did so. Each day the telegraph key loomed like a bigger and bigger challenge, but I was determined to lick it—and I did.

June, 1942, found me again facing Mr. Chauvin. This time I copied from the wire with no trouble. After the examination, he smiled and said I had passed. Then he wrote out an order for me to deadhead to Morgan City and handle the telegraph job there for a few days.

Thus my railroading began. I trace it all back to the spring of 1941, when I began spending my leisure hours around the depot in Franklin, with a camera, mainly for the purpose of photographing engines that stopped there for water. I really liked that hobby. I even developed and printed my own pictures.

To watch a ten-wheeler pull away from the water tower with a long string of freight cars from all over the country, trailing a fluffy smoke plume, fired my imagination and made me yearn for a railroad job. I soon made friends with Mr. Feshke and the two operators, both named Mr. Stevens. They were brothers. One worked from eight p.m. till midnight, while the other held the graveyard trick. All three men let me listen on the train dispatcher's phone as he put out orders. I would sit there by the hour.

In time I learned how to sell tickets to points all over the United States and Canada and make myself generally useful around the depot. One operator showed interest in my photography and asked if I knew the Morse code.

"I sure do," I said proudly. "I learned it from an encyclopedia." And I wrote down the dots and dashes for him.

"You're pretty good, kid," said Mr. Stevens. "I'll make a deal with you. Bring in a practice set tomorrow morning and I'll teach you to telegraph, provided that you show me how to develop and print pictures."

I spent the next five months at hard work. During the day I would concentrate on the Morse code, and at night I was in the dark room teaching Mr. Stevens the tricks of photography. At last, with the added practice in telegraphy, I had no trouble with the test the second time I faced the chief dispatcher. Things were different then—I had self-confidence.

Not long afterward I made the dispatcher's chair—which I am occupying today at Shreveport, La., on the Louisville & Nashville.

WILLIAM F. ANDRICKS

BACK in the mid-Nineties, when I was a teen-ager, I was, like most farm boys of that period, anxious to get away from hoeing corn, milking cows, and eventually marrying a farmer's daughter.

The best form of escape, it seemed, was to land a railroad job. Two of my friends had already qualified and gone to work on the high iron.

During my first term in high school at Galena, Ohio, my father and I worked in a large sawmill near home for a few days each week. I chopped slabs, fired the boiler, and pumped water. On the days when we were not

at the mill we cut logs. As a result, I had very little high-school education.

My mind was often on the railroad and how wonderful it would be to work in the depot. My favorite road was the Cleveland, Akron & Columbus, whose station, pumphouse, and water tank were only a block from my home.

One day the pump operator was fired for getting his wires crossed in the switchboard. The agent and telegraph operator, I. K. Miller, looked for a replacement. He asked my parents if they would let me take the job, and after some discussion they agreed. Thus my big opportunity arrived. I actually began working for the railroad!

My duties included keeping the water tank filled, sealing cars, running messages, and sweeping out. Besides, I had to learn telegraphy. The pay was ten dollars a month.

To have someone to telegraph with, I persuaded several fellows to join me in stringing a telegraph line from my home to the depot. Securing tall saplings, we set them along a line fence, using railroad insulators to hold the wires. When it was completed and in operation, Miller began coaching me.

I started work in October, 1894. By the following April I could copy everything except coded and commercial news. I was now in a position to get a telegraph job, but there wasn't an opening in sight.

In time the ten-dollar salary caught up with me. Dad wasn't earning much, either. I had to leave the railroad and return to farm chores, much as I disliked them. Turning the pumping job over to a school chum, I hired out on Joe Webster's farm for the season, getting some part-time schooling.

I never gave up the idea of going back to the railroad. While I was out in the fields, I often paused and watched in fascination as the magical trains chugged by.

One day while I was still working for Joe but practicing telegraphy at the depot, I caught the office call. The agent happened to be out, so I answered it and copied a telegram, which was addressed to my high-school superintendent.

When I delivered it, he praised me for having mastered the Morse code, but reprimanded me for being out of school.

A few months later my family moved to a nearby town. One afternoon, a short time later, while I was cruising around town on my bike, I heard the sweet music of telegraph instruments coming from the open bay windows at the depot. I went closer to listen.

Noting my interest, the operator, A. J. Cromer, came out to greet me. It seems that Mr. Cromer needed a messenger boy. He looked happy when I told him that I was a ham and he offered me the job at good pay, including permission to copy from the wires, and said he'd set up telegraph instruments to keep me in practice.

I quickly accepted, without bothering to consult my father. This was what I'd been looking for. I practiced long and hard. Late that fall I qualified for a job as telegraph operator and went to my first real job. It was the night trick at the crossing tower of the Big Four and the CH&D.

Later I became a boomer brass pounder, working for dozens of roads. At the same time I educated myself as best I could to offset all that schooling I lost back in the 1890's. Over the years I've had many thrills, but the biggest of them all was the day I became a railroad man. ●

Next Issue — April (Out Feb. 5)

"Steel Rails Through the Tall Cane," by Charles Morrow Wilson —little-known facts about America's sugar carriers.

"As the Crow Flies," by Harold K. Vollrath (see facing page)— the Kansas City Southern story, with an all-time locomotive roster of the KCS, predecessor roads, and affiliated roads.

"The Modernized South Shore Line," by Steve Maguire.

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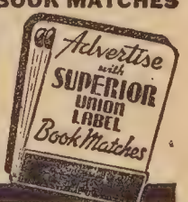

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RAILROAD HOBBY CLUB

HOGGER'S SON. Burdell Bulgrin of Owen, Wis., is a steam locomotive fan, with a collection of over 6000 prints, most of which he snapped himself, and an 0 gage model railroader. His Dad is an engineer on the Duluth, Missabe & Iron Range but works only during the summer months while iron ore is being shipped.

Burdell Bulgrin

Burdell was unhappy because the DM&IR roster in our Oct. '56 issue, for some reason, omitted the engine numbers. So were we. He sends the following data on classes and numbers:

E (500-505), E-1 (506-515), E-4 (700-709), E-5 (710, 711), E-6 (712), E-7 (713-717), K (190-198, 1200-1205, 1207, 1208), K-1 (1209, 1212-1224), M-1S (209), M-2S (210, 211), M-3 (220-227), M-4 (228-237), N (1300-1303), N-1 (1304, 1305), N-2 (1306-1308), N-3 (1309-1311), N-4 (1312-1321), N-5 (1322-1325), N-6 (1326-1337), P (400, 402), S-5 (87-89), S-6 (91-93), S-7 (601-609), DS-1 (11-25), RS-1 (101-110), RDC-3 (1).

He writes: "The DM&IR is ordering 20 more SD-9's and will probably scrap the rest of their old 2-8-8-2's. But the 2-10-4's are pretty sure to stay on the job as long as they can run and be repaired."

Burdell's father worked on the Soo Line as engine watchman and fireman before hiring out to the DM&IR in 1942. He has handled steam power exclusively, except for one diesel. A red-winged blackbird took a fancy to him. Every time Engineer Bulgrin stopped at the yard office for orders the bird would visit him, chirping in the cab or on the gangway until he fed it.

One dark foggy night he was taking a loaded iron-ore train out of Proctor, Minn., down the hill to Duluth with an 0-10-2 engine. A train of empties headed upgrade with another 0-10-2. Its tank jumped the track and plowed into the downhill train, causing much damage. Every crew man on both trains jumped off except Mr. Bulgrin. To this day he doesn't know why he stayed on. His engine weaved back and forth but nobody was hurt.

CAB-AHEAD steam locos, unique on the Southern Pacific for years, finally have been displaced by diesels as prime movers of freight on the transcontinental line over the 7,000-foot high Sierras.

As we go to press, the SP is 90 percent dieselized, with less than 400 steamers left, as compared with 2,102 in 1946. Motive power men like diesels because of their high tractive effort and dynamic braking system.

Says SP president D. J. Russell: "Every diesel unit we get replaces and does the work of approximately one and a half steam locomotives. In addition, diesels have greater availability and parts may be replaced if necessary without tying up the locomotive for extended periods."

MOST retired steamers are scrapped, but many roads have turned a number over to communities along their lines—to grace city squares, to captivate the imagination of small children, and to recall to oldtimers the nostalgic days when steam was king.

Among recent additions to the Henry Ford Museum and Greenfield Village, Dearborn, Mich., is Chesapeake & Ohio No. 601, a giant 600-ton Allegheny-type steamer built by Lima. The same museum houses the *Sam Hill*, an old woodburner, and the even older *DeWitt Clinton*.

The Long Island's last two steam engines, Nos. 35 and 38, are now on permanent display respectively in Nassau County Park, Salisbury, N. Y., and the Carriage House Museum, two miles away.

AFRICA HEARD FROM. Kayoda Sumonee (a 15-year-old boy), 29 Ojo-giwa St., Lagos, Nigeria, Africa, is eager to learn about our railroads and compare them with the Nigerian system. He wants teen-age pen pals and would be grateful for any North American railroad photo or magazine that a reader gives him. He speaks and writes English.

Nigeria is a hot country, with a temperature range from 56 to 115 degrees, and is partly civilized. The Nigerian Railway is no pigmy. It boasts 1,903 route-miles of track with a gage of 3 feet 6 inches, plus 133 miles of 2 feet 6 inches. Its roster includes 256 steam engines (no diesels), 355 passenger cars, and 4,463 freight cars, and 313 miscellaneous vehicles.

The system has no tunnels or viaducts, but one of its bridges (2,624 feet across the Makurdi River) if Africa's fourth longest bridge. This railway was opened to traffic in 1901.

OWEN DAVIES, 1214 N. LaSalle St., Chicago, Ill., who sells railroadiana, will send a big free list on request to anyone specifying what kind of material interests him. He claims to have "the largest and finest stock of books about railroads in U.S.A."

"Many booksellers," he writes, "offer me such books, and thus I often pick up out-of-print volumes. While Harry Bedwell's novel, *The Boomer*, is not easy to find, a copy does come in occasionally. Right now I have two copies of Freeman Hubbard's *Railroad Avenue*. Lucius Beebe's works are almost always on hand. Also many others.

"As for *Railroad*, I currently have in stock about two dozen copies prior to 1918, when it was called *Railroad Man's Magazine*, and an almost complete file from 1935 to date, but I am weak on the 1929-'34 period. My postpaid prices for *Railroad*, complete, unclipped, and with covers, ranges from 50c to $1 each, depending on dates."

WE RECOMMEND *The Locomotive Newsletter* for readers interested in steam data. It's an intelligently-edited, two-page, mimeographed sheet issued monthly (50c per year) by Ivan M. Saunders, 216½ Sweetbriar St., Pittsburgh 11, Pa.

BALTIMORE (Md.) Society of Model Engineers, 225 W. Saratoga St., is holding annual show, 2-9 p.m. every Sat. and Sun. in Dec., also Jan. 1. Admission free.

NEW YORK Society of Model Engineers, after 10 years in the Lackawanna terminal, Hoboken, N. J., has just acquired a one-story building of its own at 341 Hoboken Rd., Carlstadt, N. J., two blocks west of Route 35, accessible by Interstate bus 35 from Port of N. Y. Authority bus terminal.

ROANOKE CHAPTER of the National Railway Historical Society, founded a year ago by O. H. Borsum, 2741 Lansing Drive S.W., Roanoke, Va., now has 12 members. Recently the chapter played host to nearly 100 Railroad Enthusiasts from New York. Mr. Borsum reports seeing two Mallets used on the front end of a Norfolk & Western coal drag and two on the rear.

STEAM POWER

MANY readers like to know where steam power may still be seen and photographed. Every issue we publish fragmentary bits of information on the subject. The following list was compiled from data sent to us by Roger Breslow, B. W. Beardsley, Doug. Cummings, E. A. Edelman, Elliott Kahn, Frank Kemerer, Thomas Lawson, John Marino, David Wealy, B. R. Roberts, Neil Buckwalter, and J. L. Watson.

"A rail photo fan would strike pay dirt by touring the general area served by the Cincinnati, New Orleans & Texas Pacific (part of the Southern system)," writes H. C. Steely, Williamsburg, Ky. "This area, about 250 miles, embraces five short lines.

"Southward out of Cincinnati you find the dieselized Frankfort & Cincinnati at Georgetown, Ky., that hauls mostly whiskey. Next is the Kentucky & Tennessee, a common carrier owned and operated by Stearns Coal & Lumber Co. It uses steam locomotives. Then the Tennessee Railroad running southeast out of Oneida, Tenn., also steam-powered. About 25 miles south of Oneida is the Brimstone Railroad, unique in its use of Shay geared engines. The fifth short line is the Emory River, which boasts a single steam locomotive."

We can't guarantee the accuracy of each item listed here. Some situations change after we go to press.

Alabama State Prison has just abandoned its railroads. This short line was pictured in our June '55 issue. Its only engine, No. 3479 (0-6-0), owned by the Frisco Lines, has been sold to an industrial road.

Canadian National and CPR make Dorval, P.Q., a steamfan paradise with 4-6-4's, 4-6-2's, and 4-6-0 T's in action. Make CNR, CPR, and Quebec Central part of tour of Quebec City. There you can see 2-8-0's, 4-6-2's and 4-8-4's, especially around 5 p.m.

Canadian Pacific has 4-6-4's Nos. 2560, 2562, 2563, and 2564 in service at Vancouver, B.C.

Central of Georgia has an interesting old 4-4-0, which cannot be fired and is used for exhibition purposes only.

Frisco Lines are still holding a few 4-8-2's, 2-8-2's, and 4-8-4's in storage over the system.

Illinois Central recently had nearly 500 steam locos left, mostly 2-8-2's and 4-8-2's, but is scrapping them at the rate of about 30 a month.

Northern Pacific still uses considerable steam power out of Minneapolis and elsewhere. (See roster in this issue.)

Reading has a few 4-8-4 T-1's wheeling freight out of Northumberland, Pa., and some 4-8-4's, 2100 Class, on its Shamokin Division.

Union Pacific at The Dalles, Ore., has 4-8-4 No. 827.

RAILROADIANA

ITEMS sent to this department are printed free, in good faith, but without guarantee. Write plainly. No entry longer than 28 words will be accepted —except those dealing with back numbers of this magazine. Address *Railroad Magazine*, 205 E. 42nd Street, New York 17, N. Y.

Use these abbreviations: *cond.*, condition; *ea.*, each; *elec.*, electricity; *env.*, envelope; *eqmt.*, equipment; *esp.*, especially; *info.*, information; *n.g.*, narrow-gage; *negs.*, negatives; *p.c.*, postcard; *pref.*, preferably; *tr.*, train; *rr.*, railroad.

The term *tts.*, refers to public timetables, unless preceded by *emp.*, when it means employe's (operating) timetables.

Anyone desiring railfan pen pals is entitled to a listing here. State what phases of railroading interest you most and from whom you want to hear.

SWITCH LIST

JOHN AARDEMA, 114 16th Ave., Paterson, N.J., wants pix, 5x7 or 8x10, of Vgn. locos 400-405, SB switchers, all classes Vgn. and Clinchfield diesels, and RF&P (ex-C&O) Mallets. Write first.

W. E. AINSWORTH, Rt. 5, Box 565, Port Orchard, Wash., wants size 116 steam pix of NP, Milw., GN, UP, other Western rds. Answers all mail.

B. W. BEARDSLEY, 30 Pleasant St., Dalton, Mass., will sell negs. and pix of 4-6-0's and 4-6-0 T's. (No price or size specified.)

JERRY BRATLIE, 807 University Ave., Madison, Wis., will pay cash for various rr. cyclopedias, Off. Guides, back issues of Railroad Magazine and Trains.

JOHN BURN, Box 1302, Shelly, N.C., will sell pix of CC&O, N&W, Vgn., C&JM, NYC, and other rds., 15 for $1. (He failed to state size.)

BURDELL BULGRIN, Owen, Wis., wants pix and negs. Soo, DM&IR, UP, SP, LST&T, MT&W, NP, GN, Minnesota mining rds. (You're supposed to guess what size pix he wants.)

RAY BYERS, 167 Feronia Way, Rutherford, N. J., sells New Orleans trolley pix, 4½x3, 8 for $1.

HARRY CHASE, 18 Beech St., Mansfield, Mass., will buy SP emp. tts. and pix Oakland and East Bay area, '40-'50; SP rulebook, Cuba rr. pix. (What size pix, Harry?)

EARL CLARK, 2108 Howell St., Covington, Ky., wants foreign pen pals interested in trading pix and info. Free list.

R. M. CONDON, 809 S. Water St., Kent, O., will buy books written about rr. rules, new or used.

ERNEST CROSBY, Box 823, Cadosia, N. Y., wants to hear from railroaders who will add to his collection of 211 switch keys.

CHESTER DEAGLE, 118 Hammond St., Waltham, Mass., wants old Railroad Magazines containing rosters of B&A, B&M, Sandy River Line, and B&H.

E. H. DeGROOT, Jr., 1309 Spring Mill Rd., N.W., Washington, D. C., will buy Bedwell's book, "The Boomer."

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Authenticated News

A sight you'll never see again: Chicago & North Western steam power. C&NW has scrapped 238 locomotives since last May 11 but held out 100 bells and hangers to sell to fans. The entire 100 were sold in about a week! The system, including the Omaha Road, is now operating 713 diesels. Also eight steam engines, of which five are 6-wheel switchers and three 4-6-0 road engines. All are engaged in iron-ore switching on the docks at Ashland, Wisc., or Ironwood, Mich. These are: Nos. 175, 1386, and 1387, Class R-1, and 2111, 2119, 2124, 2142, and 2150, Class M-2. We printed a C&NW roster in Aug., 1948.

HARRY DEMORO, 330 Haight Ave., Alameda, Calif., wants info. on former LVT streetcars sold to Key System in 1904.

JIM FARRELL, 2343 N. Karlov Ave., Chicago, Ill., will send trfs. from Chicago's last 2 streetcar lines for stamped env., also trade for other cities.

O. C. GARCIA, 605 89-25 Elmhurst Ave., Elmhurst, N.Y., sells rr. clippings, tkts., tfrs., tts., etc. Mixed lot of 100 items, $1.

PAUL GARDE, Box 270, Green Mountain Falls, Colo., sells rr. slides, color or black and white, incl. D&RGW n.g., many others. Send for long descriptive list.

GORDON GLATTENBERG, 1158 N. Kingsley Dr., Los Angeles, Calif., sells good 8x10 steam pix of Sierra RR. tripleheader, SP, UP, D&RGW, etc. Write for list.

TOM GOSCH, 2374 S. Beverly Glen Blvd., Los Angeles, Calif., will buy ACL, FEC, and Seaboard steam pix. (What size pix, Tom?)

C. C. GRAYSON, Box 1431, Longview, Tex., sells size 116 pix of B&O, C&NW, IC, MP, SP, Sou., others, incl. m.g., oldtimers, industrials. List and sample, 3c stamp.

R. T. HESS, Traffic Dept., Merck & Co., Inc., Rahway, N. J., will pay $25 for 1925 PRR calendar and pad complete, mint cond. Will buy individual issues Railroad Magazine prior to 1919.

LACEY JAMES, 1417 Springer St., Columbus, Ga., will sell to highest bidder Railroad Magazine, July thru Dec. '41, Jan. '42 thru Aug. '54, 151 issues, all good cond., covers intact.

JIM JEFFERY, 1569½ Hoyt St., Muskegon, Mich., will trade tr. ords., GTW, C&O, PRR for those on other U.S. or Canadian rds.

GORDON KLINE, 249 Goffle Rd., Ridgewood, N.J., sells colored slides, emp. tts., Off. Guides, steam pix, etc. List free.

R. KURTH, 160 S. Babylon Tpke., Merrick, N.Y., wants negs. of B&O, PRR, NYC, CNR, steam or diesel. (He didn't mention size of negs.)

Dr. THOMAS LANGAN, St. Louis University, St. Louis, Mo., will sell for best offer Railroad Magazine '42 thru '46, Trains '44 thru '47, collection 2,700 size 116 steam and elec. pix, '37 thru '46, everywhere.

R. R. MAGUIRE, 269 Albion St., Wakefield, Mass., will sell for best cash offer many B&M emp. mags., 1949-'56, all good cond.

JOE M'MAHON, 15 Adrian Ave., New York, N.Y., sells NYC, NH pix, tts, others, pre-war; list for 3c stamp.

PETE MARCHETTI, 3222 Pickwick La., Chevy Chase, Md., will buy negs. of GN, B&O, NP, DM&IR, T&P, Vgn. DW&P, interstate steam. Will trade negs. Send for list.

JOHN McCARTHY, 176 S. Arlington Ave., East Orange, N. J., will sell back issues, Railroad Magazine and Trains, all good cond., 20c ea. List for 3c stamp.

DON McCLAIN, 709 Main St., Cincinnati, O., will sell Railroad Man's Magazine compl., 1906-'19, 160 issues. Also Loco, Engineering, '91 thru 1907, good cond.: Off. Guides, other railbooks. List for stamped env.

JOE McMILLIAN, Box 515, Yorktown, Tex., wants up-to-date detailed diesel loco rosters of MP, FEC, UP, AT&SF, SAL, ACL, MKT. Will buy or trade tr. ords.

A. MEACHAM, 2-6 Dearborn Ave., Winnipeg, Canada, will sell some back issues Railroad Magazine, rr. technical books, rr. novels. List for 3c.

M. D. MEYER, 238 W. Water St., Brillion, Wis., will sell set of 10 elec. pix, incl. Milw. streetcars and North Shore, $1. (Puzzle: what size pix?)

ART MILLION, 7234 S. Karlov Ave., Chicago, Ill. will buy and diagram sheets of rr. eqmt. of Chicago & West Michigan Detroit, Grand Rapids & Western, Flint & Pere Marquette. (No size pix mentioned.)

W. R. MOODY, 268 King St., East St. John, N. B., Canada, wants pix of CNR, CPR, GTW. (You guess what size pix.)

J. L. MOUNTAIN, 1661 Olive St., Bakersfield, Calif., will buy any size negs, p.c.'s, pub and emp. tts., passes, tkts, old letters, newspaper stories, etc., of Union Traction, Indiana. UT ex-employes, please write.

GEO. NOBBS, 486, Revelstoke, B. C., Canada, will buy or trade CPR steam pix and negs. (Look into your crystal ball and learn what size pix.)

ERNIE PLANT, Box 40, Horseshoe Bay, B. C., Canada, will sell PGE pix of eqmt., CPR, CNR, BCE, short rds., size 116, 20 for $1.70. Beautiful PGE jacket crests $1 ea.

JOHN POHLSON, 813 Grant St., Ottumwa, Ia., wants recent or current emp. tts., CB&Q, McCook Div., AT&SF, D&RGW, and WP.

NORMAN REINHARDT, 896 Main Ave., Passaic, N.J., will pay 35c ea. for Oct. '48 and Oct. '49 Railroad Magazine, good cond. Buys Alco steam negs.

R. E. J. ROBERTSON, 67 Groveland Rd., Beckenham, Kent, England, will trade orig. color shots of British Rys., locos, for American HO eqmt. Will photograph anything you want in London area.

DICK RUMBOLZ, 2819 Cedar St., Lincoln, Neb., has size 616 and p.c. pix and negs. for sale or trade. Write for info.

ERIC SANDERS, 7861 Normal Ave., La Mesa, Calif., has copies of SD&AE emp. tt. No. 74, May 7, '39, to trade or sell, 50c.

JERRY SCHELE, 815 Russell Ave., Ft. Wayne, Ind., has rr. mags., tts., rr. literature '38 thru '42 era, also old illust. loco cats. Wants old auto emblems, cast-iron toys.

RUDY SCHWABE, 3207 W. 84th St., Cleveland, O., sells elec. rr. tts. '37 PE, Indiana RR., Youngstown & Suburban, others. List for stamped env. Highest offer takes all.

Pvt. GERALD SMILOVITZ, 310 Market St., Steubenville, O., will buy any size steam negs., slides, or movies of Erie, DL&W, Rdg., LV, CNJ, CRI&P, Milw., C&EI, Monon, or will trade.

TOM STENGUIST, 429 S. Craig Pl., Lombard, Ill., wants info. on CA&E, CNS&M., CSS&SB, CTA. Will sell CA&E negs. List for 3c stamp.

E. C. STOCKWELL, editor of The Spanner (CPR), Room 294, Windsor Station, Montreal, Canada, wants to hear from anyone who owns a CPR timetable prior to 1900 or any other old historical CPR paper.

JOE STOUBER, 709 W. Arnold St., Marshfield, Wis., will trade steam pix. Will buy Soo steam pix on approval. (He failed to state which size.)

STAN STYLES, 19 W. 18th Ave., Vancouver, B.C., Canada, will sell size 616 steam negs., 35c ea. CPR, CNR, NWP, BCE, PT Co., YN, juice or diesel negs, 25c ea.

C. F. VERCELLI, 1570 Fair Park Ave., Los Angeles, Calif., will sell pix LATL and PE. Send for list. (No size mentioned.)

DAVE von GUNTEN, 4718 Arlington Ave., Ft. Wayne, Ind., will sell 175 pix of locos, cars, stations, etc. Best offer. (What size, Dave?)

OTTO WEISS, 35-52 34th St., Long Island City, N.Y., will buy any size pix of steam loco pulling 4-wheel coal cars and compressed air loco pulling car.

S. C. WILLIFORD, 609 Cheyenne Blvd., Colorado Springs, Colo., sells 35 mm. color slides of Colo. n.g. steam engs., 10 for $5, 30 for $10.

EDW. WADHAMS, Box 502, Noroton Heights, Conn., handles sale of many trolley and steam pix for Western Conn. Chapter, NRHS. Send big self-addressed stamped env. for list. (Presumably various size prints.)

RICHARD WILLIAMS, 203 E. Greenway Blvd., Falls Church, Va., wants exact floor plans for cupola-type caboose, with measurements, so he can build actual size.

GARY WILSON, 353 Penn St., Pasadena, Calif., buys pix of private interurban cars on approval. (He forgot to say what size.)

ROBT. BOEDDENER, 18858 Roslyn Dr., Cleveland, O., selling big collection model mags., single copies, bound vols., many rare, good cond. List for 3c stamp. Wants "Railroad Magazine," Dec. '29 thru Jan. '32, perf. cond.

PETER BOYLAN, 1371 Shakespeare Ave., Bronx, N. Y., wants steam pix or negs. (erection type), Camb. & Ind., Monong., Montour, Colo. & Wyo. Answers all mail. (What size pix?)

KELLY CHODA, 732 Ursula St., sells color slides. Printed 20-page list, illust., 10c.

PAUL EMCH, 1506 E. 173rd St., Cleveland, O., will buy steam negs, all rds. State price, quality. Sells steam, diesel pix NYC, NKP, B&O, N&W. (What size pix, Paul?)

WALT HARRIS, 45 W. Elm St., Stockton, Calif., sells old issues "Railroad Magazine," Trtins, model mags., emp. tts., etc. Send for list.

AL KUNSTER (forgot to tell hhs address).

MORRIS LLOYD, 226 Hendricks Blvd., Buffalo, N. Y., will sell tts., travel litera., incl. Cuba, 130 items, for best offer by Apr. 1. Send for list.

A. MEACHAM, 206 Dearborn Ave., Winnipeg, Canada, will sell most issues "Railroad Magazine" Canada, will sell most issues "Railroad Magazine" 1949 to date, many British railbooks. List for 3c Canadian stamp or 3 U. S. pennies.

J. MONHOFF, 524 E. Marigold St., Altadena, Calif., sells pix SP, PE, lmbr. and short lines. (You're supposed to guess if they're loco pix, also size, price.)

A. MORRIS, 61 Austin Terr., Toronto, Canada, wants Off. Guides before 1930; write first.

KEN NIMS, 678 Bernardston Rd., Greenfield, Mass., best offer takes Nov. '77 Rand-McN. Off. RR. Guide, god cond.

TOM PUBLIS, 20 W. 8th Ave., Gloversville, N. Y., wants to borrow negs. FJ&G, Schenectady, United Trac.; also eqpmt. roster of latter 2. Sells pix of all 3.

BEN SMITH, 265 Tompkins Ave., Brooklyn, N. Y., will sell "Railroad Magazine," 1934-'54, model mags., tr. cats.; wants old rr. calendars. (He forgot to mention condition of mags.)

DON STEFFEE (compiler of pass.-tr. speed surveys), 512 8th Ave., Brooklyn, N. Y., has big supply emp. tts., trade or sell, nearly all big rds., many short lines. Long list for 3c stamp.

LEONARD TRIPP, 1615 S. Prairie Ave., Sioux Falls, S. D., sells 4x5 pix locos on permanent display all over country. List, sample, 10c.

MIKE VAIUSO, Jr., 54 Arch St., Amsterdam, N. Y., wants to hear from anyone to whom he owes cash, negs. Wants size 116-616 negs., all rds.; will swap bks., mags., tts.

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HUGO FORDE, 1125 Forest Ave., Bronx, N. Y., will sell for best offer 3 imported O gage auto block signals, never used, suitable for Lionel, Kusan-Auburn, or Marx.

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CHAS. CHALOUX, 677 E. 231st St., New York City, wants Li., AF, Ives, etc., locos, cars, accessories junk cond.! wants parts only.

ROBT. DANNA, 309 E. Houston St., New York City, will buy Li. or Marx str'lined elec. tr., complete, 27 gage, good cond.

BILL GIOLMA, 3959 W. 31st St., Vancouver, B. C., Canada, will trade OK Cub .19 model airplane engine, good cond., compl., for 0-5-0 switcher or other loco. Write for details.

DICK HOPPER, 308 W. Chamberlin St., Dixon, Ill., will sell Marx Hudson type loco or trade for Lionel 0 or 027 Hudson, any cond.

DR. C. KOWAL, 2743 W. 55th St., Chicago, Ill., will sell Ives 1918 cat., good cond., best offer.

RUSSELL McLAREN, 1035 Mapleton Ave., Oak Park, Ill., will sell or trade many O gage Lionel and AF items. List for 6c stamp. Wants 1/4-inch scale locos and cars.

M. P. MILLER, Box 204, Sterling, Ill., will sell bound vols. Model Railroader, '44; '46 thru '53; plus loose issues, good cond. List for 3c stamp.

J. L. MOUNTAIN, 1661 Olive St., Bakersfield, Calif., will buy O gage tract. parts, kits, plans.

W. B. PHILIPS, 2305 E. 23rd St., Brooklyn, N. Y., will sell collection of antique and old timeplate, all gages, or trade for Lionel 072 and 0 gage scale items. List for 3c stamp.

BILL SETZER, Amana, Ia., will trade worth of HO gage eqpmt. costing $350 for 1½ scale. 7½ gage.

STATEMENT OF OWNERSHIP

Statement required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233), showing the Ownership, Management, and Circulation of Railroad Magazine, published bi-monthly at Canton, Ohio, for October 1, 1956. 1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Henry Steeger, 205 East 42nd St., New York 17, New York. Editor, Freeman Hubbard, 205 East 42nd St., New York 17, New York. Managing editor, none. Business manager, none. 2. The owner is: Popular Publications, Inc., 205 East 42nd St., New York 17, New York. Henry Steeger, 205 East 42nd St., New York 17, New York. Shirley M. Steeger, 205 East 42nd St., New York 17, New York. 3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: none. 4. Paragraph 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of a bona fide owner. Signed, Henry Steeger, Publisher. Sworn to and subscribed before me this 25th day of September, 1956. Eva M. Walker, Notary Public, State of New York. Qualified in New York County, No. 31-9506600. Certificate filed with N. Y. Co. Reg. Commission expires March 30, 1958. (Seal)—Form 3526—Rev. 8-50.

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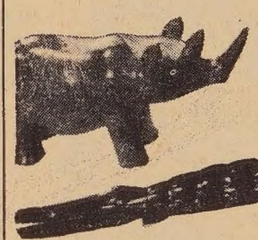

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Just 8 easy orders a day bring you up to $960 a month!

RUSH COUPON FOR FREE BUSINESS OUTFIT!

Here's an exciting business for the man who wants to make money with a product he can sell to EVERYBODY...who wants steady cash profits EVERY MONTH...easy REPEAT SALES to the same customers...a BIG INCOME supplemented by monthly BONUS CHECKS and exciting PRIZES! We'll set you up in a profitable Mason "Shoe Store" business at **our** expense. You need no previous experience...you don't have to invest a cent! James Kelly of Ohio took so many orders for these Nationally-Advertised shoes he made $93.55 in ONE evening! Fred Mapes makes $5 to $10 every hour he devotes to his Mason Shoe business!

It's **easy** with our way of selling shoes. We set you up in a complete "shoe store" business you can run from your home. **We** carry the stock and ship the shoes. All you do is show the styles to your family, friends, people where you work, etc....and take orders. You have a profitable business with no rent, light bill, clerk hire or other costs to worry you. **You keep 100% of your profit!**

Here's why you'll make money!

● You offer **170** comfortable fast-selling styles...far more than a store! ● You have an amazing range of **sizes (2½ to 14)** and **widths (AAAA to EEEE)**. Even hard-to-fit people can buy from you! ● Because we carry over 200,000 pairs in stock, your customers get **exactly** what they want ...no misfits or substitutions! ● You feature exclusive Velvet-eez shoes with foamy-soft **air-cushion innersoles** that let you "walk on air." Built for supreme comfort, Mason shoes also feature built-in strong steel shanks, Air-Cushion longitudinal support, Nylon stitching. Advertised in Esquire, Good Housekeeping and on TV, they'll be available **only** from **you**—not sold in stores! ● You save your customers money, and the time they would waste "shopping around" shoe stores.

Take Orders For Over 170 Dress-Sport-Work Shoe Styles!

30 kinds of work shoes! A style for every trade! Special Neoprene, Cork, Cushion soles, heels...ventilated work shoes...even Safety Toe Shoes!

Smart dress, sport styles! The last word in styling! Many fine, unusual leathers. Cool Nylon Mesh styles, moccasins, 2-tones and Cush-N-Crepe soled shoes!

70 Styles for Women! Satisfy almost every taste! Many comfort features. Low-heeled, high-heeled, casuals, service shoes, latest styles!

No wonder you'll have the biggest and best "shoe store" business in town!

MASON SHOE MFG. CO.
Since 1904
Desk MA354 Chippewa Falls, Wisconsin

You'll get a Starting Kit *FREE!*

As soon as we receive the coupon below we'll send you a complete Business Outfit **FREE and postpaid!** It features the entire Mason Collection in full color; contains 10-second Air Cushion demonstrator, valuable Booklet chock full of how-to-make-money hints, special Measuring Board, advertising reprints...everything else you need to start making cash profits from the first hour! We'll also show you how to earn monthly **Bonus Checks** and win costly prizes **Free!**

Mason Shoes will be available ONLY from You!

Because Mason Shoes are not sold in stores, you get **repeat** orders from delighted customers almost automatically! Steady cash profits every month! Since everyone you know wears shoes...**EVERYBODY IS A PROSPECT!** No wonder this is the perfect business for you: a quality product everybody needs...backed by the famous Good Housekeeping Guarantee Seal...one you can take orders for 12 months of the year. Want to see how much money **you** can make? For a 2¢ postcard you can try it NOW ...start your exciting business **right away!**

RUSH THIS STAMP FOR YOUR *FREE* BUSINESS OUTFIT!

Mr. Ned Mason, Vice Presider
Mason Shoe Mfg. Co., Desk MA354
Chippewa Falls, Wisconsin

Yes, I'd like up to $960 a month for just 8 orders a day...and MORE! Please start me in an exciting "Shoe Store" business by rushing my Complete Shoe Business Outfit FREE and postpaid so I can start making money my first hour!

Name_____

Address_____

Town_____ State_____